LIBRARY

JUL 27 1934

Semi-Annual Number

The OIL AND GAS JOURNAL

HO

ODUCING

EFINING

ATURAL
ASOLINE

IPELINE

ARKETING

11,377 Feet

below the surface of the earth, in the bottom of the

Deepest Well In The World

(General Petroleum Corporation Berry No. 1, at Belridge, Calif.)

is set a string of

HYDRIL

Flush Joint Casing
in the hole drilled with

HYDRIL

Flush Joint Drill Pipe

Trade Mark Reg.
HYDRIL

HYDRIL COMPANY
714 West Tenth Street, Los Angeles, California
DOHENY STONE DRILL COMPANY, of Texas
4300 Calhoun Road, Houston, Texas
Cable Address, HYDRIL

Trade Mark Reg.
HYDRIL

3 FRANK QUESTIONS *about* ROTARY LINE SEIZING

•

1. WHY DO ARTISTS HATE TO PICTURE IT?

2. WHY DO SOME MANUFACTURERS HATE TO PICTURE IT?

3. WHY DOESN'T TRU-LAY REQUIRE IT?

•

Everyone who has ever handled *non*-preformed rotary line knows that, when cut, it requires seizing. Yet how many manufacturers of *non*-preformed rotary lines show illustrations of seized ends in catalogs or other advertisements? For one thing, seizings are "eyesores" to artists who produce the illustrations.

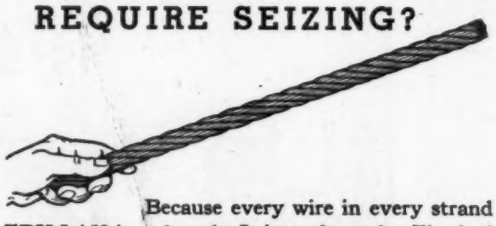
1. WHY DO ARTISTS HATE TO PICTURE SEIZING?

Well, artists are artists. They have a natural pride in good-looking pictures. No artist would draw a picture of a good-looking woman and then, as a finishing touch, put a bandage around her throat. Yet, to put the finishing touch to any picture of any *non*-preformed rotary line, seizings *should be shown*. Otherwise it is an idealized picture, conveying the impression that the line is preformed.

2. WHY DO SOME MANUFACTURERS HATE TO PICTURE SEIZING?

Because any rotary line which requires seizing has *internal tension*. It is never relaxed. Strands and wires have a constant tendency to straighten out—to "explode" as a watch spring does when released. Internal tension causes early fatigue. Naturally, no maker of *non*-preformed lines cares to call attention to these facts.

3. WHY DOESN'T TRU-LAY REQUIRE SEIZING?



Because every wire in every strand of TRU-LAY is *relaxed*. It is preformed. The helical shape of wires and strands practically eliminates internal tension and friction. The tendency to straighten out—to unravel—to "explode"—is absent. When you cut TRU-LAY rotary lines, wires and strands lie naturally in position—no seizing is required.

•

TRU-LAY preformed rotary lines are made in all required sizes, grades, constructions and lays. It costs a little more, of course, but *in the long run* it costs far less. May our engineers consult with you? Write for detailed information.

AMERICAN CABLE COMPANY, Inc.
WILKES-BARRE, PA.

District Offices:
Atlanta · Chicago · Denver · Detroit
New York · Philadelphia · Pittsburgh
Houston · San Francisco

FROM AN ACTUAL PHOTO

TRU·LAY *Preformed** Rotary Lines

*PREFORMING IS A PATENTED MANUFACTURING PROCESS APPLICABLE TO ANY TYPE, GRADE, CONSTRUCTION AND LAY OF WIRE ROPE—WITH THE RESULT OF GREATLY INCREASING ITS SERVICE

specify

WALWORTH WΣ SIGMA STEEL

Walworth 4"—1500 WSP Sigma Steel O.S. & Y. Gate Valve.

Whether you need high or low alloy steel or simply plain carbon steel valves and fittings insist on Walworth Sigma Steel. The symbol WΣ on valves and fittings is your guarantee that the steel you get from Walworth is as sound and homogeneous as modern scientific manufacture can make it.

Walworth Sigma Steel Valves are furnished with Stellite, 18% Chromium 8% Nickel, Cyclops, Stainless Steel, Copper Nickel Alloy, Plain Carbon Steel Bronze and other trim metals.

The Walworth Sigma Steel line is just one more group which helps to make practical the Walworth policy of "the right valve for any and every service".

WALWORTH

VALVES FITTINGS and TOOLS
Backed by 91 Years' Service

WALWORTH COMPANY
60 EAST 42nd STREET, NEW YORK

DISTRIBUTORS IN PRINCIPAL CITIES THROUGHOUT THE WORLD

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.00 a year. Current copies (except special numbers), 15 cents each. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.

Reproduction of the micrograph above shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent they give Barrett Pipe Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

Pipe Lines last longer and cost less per year when they are protected with

Pipe lines coated with Barrett Pipe Line Enamels are effectively guarded against corrosion and electrolysis. The tough film is impervious to moisture, and is strongly dielectric. This means longer life . . . lower maintenance costs. Eighty years of experience in waterproofing and the manufacture and application of protective coatings stand behind Barrett Pipe Line Enamels. The cooperation of a skilled Barrett Technical Staff and Barrett Field Engineers is at your service. 'Phone, wire or write.

THE BARRETT COMPANY, 40 RECTOR ST., NEW YORK, N. Y.

Barrett Specification

PIPE LINE ENAMELS

OIL INDUSTRY PUMPS
Made by
OIL INDUSTRY MEN
for
OIL INDUSTRY
Service
They're made in the heart of the oil country to stand the gaff of oil industry use. Back of them is a firmly established, responsible company organized to render the type of service the oil industry requires. Isn't it logical, under those conditions, that an ever-increasing group of oil men should insist upon them?
Wherever oil is found the word GASO is accepted as an unfailing symbol of pump service, pump life and pump economy.
Gaso Pump & Burner Mfg. Company
902 E. First St., Tulsa, Oklahoma
Export Office: 149 Broadway, N. Y.
GASO
FULL-AUTOMATIC
FIELD PUMPING
UNIT
UTILIZING GAS
OR
GASOLINE DRIVE
GASO PUMPS
for every oil industry need

CENTRALIZED REFINERY CONTROL

When processes tend to slip away from the point where operating efficiency is highest, "Centralized control" shows it. This means savings by the elimination of losses.

Panel board at left shows Brown "Centralized Control" in a modern oil refinery.

Maximum Yield at Lowest Costs—

means accurate and dependable control

The trend toward larger units—greater throughput—closer cuts—higher octanes—demand instruments that afford maximum accuracy and dependability in the measurement and control of temperatures, pressures, flows, liquid levels, etc.

At your stills—stabilizers—toppers and other units you can depend on Brown Refinery Instruments to maintain balanced operation.

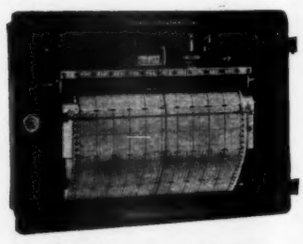
Temperatures can be checked as close as 1-5 of 1% of the range with Brown Potentiometer Pyrometers. Measuring flow is simplified by Brown Flow Meters, an automatic planimeter pen records in volume units on the rim of the chart the number of pounds, gallons, barrels, cubic feet of air or gas, etc., that pass through your lines for any period.

Brown Pressure Gauges record and control pressures up to 10,000 pounds. Constant liquid levels can be maintained with the aid of Brown Recording Liquid Level Controllers. Brown Instruments are furnished as Indicating, Recording and Automatic Controlling.

Write for catalogs and information

THE BROWN INSTRUMENT COMPANY
4488 Wayne Ave., Philadelphia, Pa.

Branches in 22 principal cities

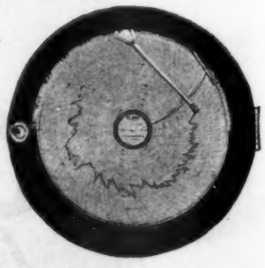


POTENTIOMETER PYROMETERS
For indicating, recording and controlling temperatures in stills, towers, furnaces, flues, lines, etc., in and around the oil refinery. Catalog 1101.

FLOW METERS
For indicating, recording and controlling the flow of oil, gasoline, gas, steam, water, air and other liquids, gases or vapors. Catalog No. 2002 or 2201.

PRESSURE AND VACUUM GAUGES
For indicating, recording and controlling pressures and vacuums in stills, towers, steam and power plants, etc. Catalog No. 6702.

LIQUID LEVEL GAUGES
For indicating, recording and controlling the level of petroleum and petroleum liquid products in tanks, towers, etc., at a distance. Catalog No. 6702.



Brown Instruments

To Measure is to Economize

Accurate WITHIN A FEW INCHES IN 5000 feet

● Originally perfected for use in our own cementing work, the Howco Measuring Device proved so accurate, simple and effective that oil men asked us to make it available to them for other purposes.

As a result, hundreds of these devices are now in service for such uses as—

1. *Measuring the depth of wells*
2. *Running crooked hole surveys*
3. *Running instruments for determining bottom hole pressures, temperatures, fluid samples, etc.* . . . . .

The Howco Measuring Device is easy to assemble and simple to use. Its measuring meter gives an immediate reading, at the surface, of the amount of line run into the well; and since the stretch in the line is negligible, an accuracy within a few inches in 5000 feet may be reasonably expected.

In the United States, the Howco Measuring Device is provided only for use outside of cementing operations.

●

HALLIBURTON
OIL WELL CEMENTING CO.
DUNCAN, OKLAHOMA

HOWCO
WELL MEASURING DEVICE

THE ACCEPTED AND AUTHENTIC METHOD FOR MEASURING THE DEPTH OF WELLS

SPECIFICATIONS ALONE ARE NOT ENOUGH!

THIS IS A CASE IN POINT. Wherever machine parts are lubricated by hand, the lubricant must stay in place in order to prevent mechanical failure.

For example, consider the lubrication of spring shackles for motor vehicles. The special Shell testing device for shackle lubricants demonstrates that specifications ordinarily employed in purchasing lubricants do not in themselves insure satisfactory performance in this kind of service.

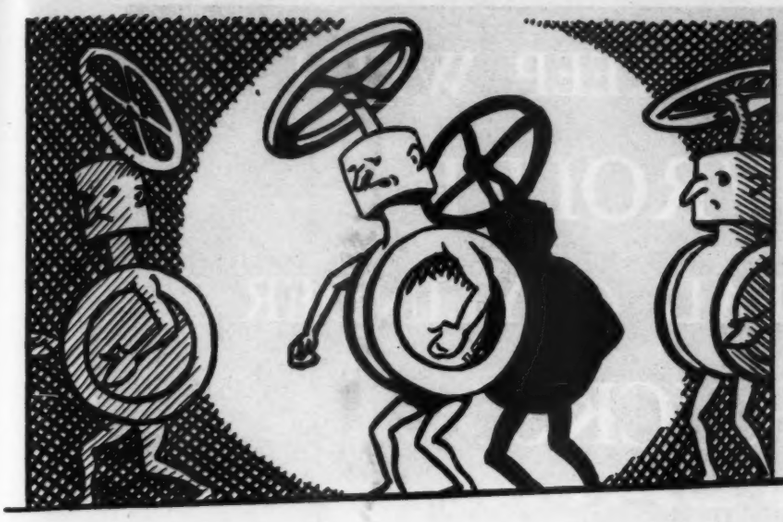
Hence, to usual specifications for greases such as penetration, melting point, etc., Shell engineers add requirements of their own . . . that the grease must remain in the shackle bushings under the most severe conditions of this special test.

It is because of many such conclusive testing methods that Shell products are what they are . . . the finest that money can buy—and amply capable of standing up under the most rigorous service conditions.

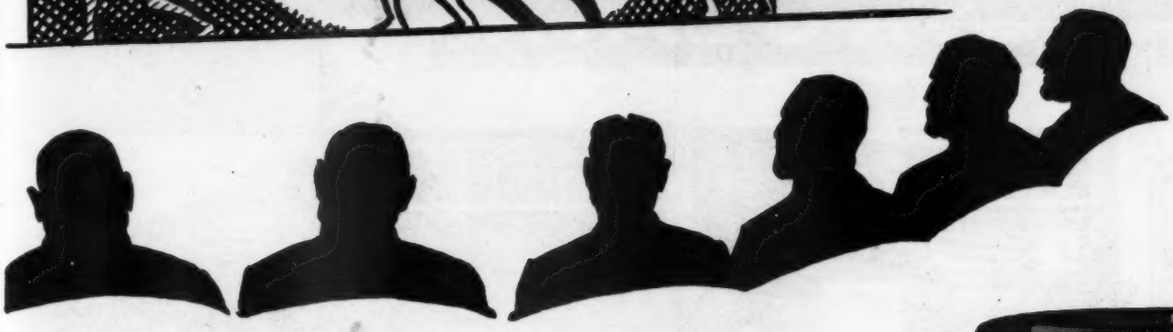
Nine strategically located Shell Refineries: Arkansas City, Kan.; Coalinga, Cal.; Dominguez, Cal.; East Chicago, Ind.; Houston, Texas; Martinez, Cal.; Norco, La.; Wilmington, Cal.; Wood River, Ill.

SHELL

PETROLEUM PRODUCTS



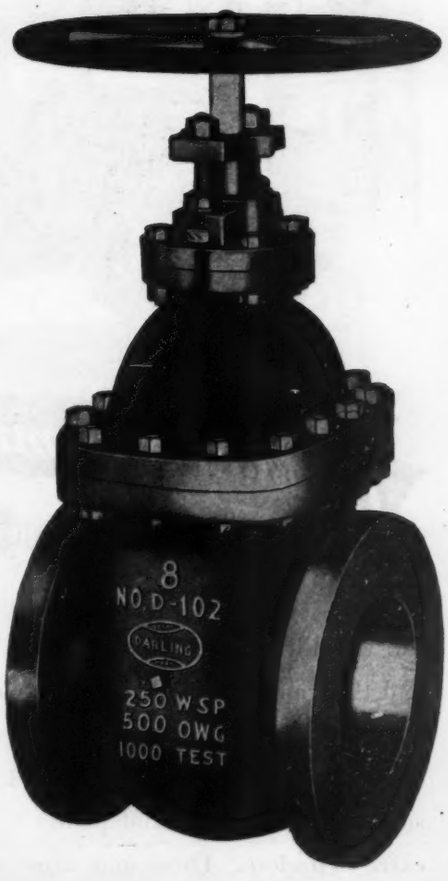
THE ROUND-UP



PERFORMANCE economy and low maintenance expense are the watchwords in today's fight to reduce operating costs and increase profits. No cheap products, no inferior supplies are permitted to weaken the economic progress of American industry. Factors retarding the return to normalcy must be permanently wiped out.

Every field man, each operating official must be sure that all equipment under his supervision is rendering a maximum of operating efficiency. High standards of performance are reported from fields where Darling Gate Valves are standard installation. This is no accident for Darling Valves offer greater strength, greater efficiency and greater ease of operation. They cost a little more because they are built a lot better.

Darling Gate Valves are built in the necessary sizes and designs for Drilling, Well Control, Pipe Lines, Well Flow Lines, Refinery, Power Plant and Compressor Stations.



DARLING

GATE VALVES

DARLING VALVE & MANUFACTURING CO.

Williamsport, Pa.

NEW YORK OKLAHOMA CITY HOUSTON

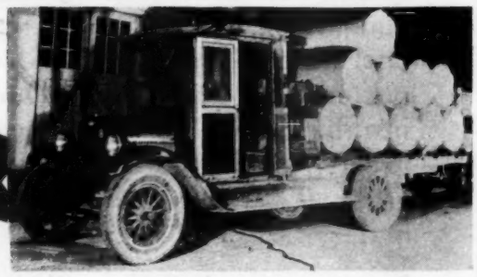
Mid-Continent Distributors:
International Supply Company
Moorlane Company

California Distributors:
Hickey Pipe & Supply Company
3375 East Slauson Avenue,
Los Angeles, California

SAVE ON UPKEEP WITH
CHEVROLET
VALVE-IN-HEAD 6-CYLINDER
TRUCKS

The Most Economical Truck You Can Buy

CHEVROLET

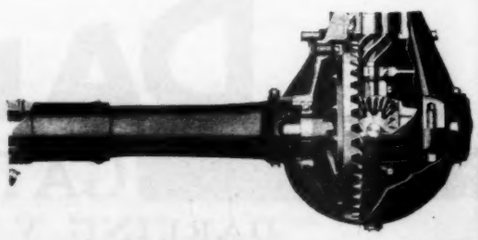


The Chevrolet truck above has covered 160,000 miles in 8 years. Joshua Rollman of Lititz, Pa., lists a valve grinding, new distributor points, and new spark plugs as the only mechanical expense. The truck averages 20 miles per gallon of gas under 2 to 2½-ton loads.

Wise truck owners keep a sharp eye on hauling costs. Their exact records tell which trucks cost less to run. That explains why big fleet operators and thousands of single-truck owners have been switching to Chevrolet trucks. They know that the Chevrolet six-cylinder overhead-valve truck engine saves them money. They know that Chevrolet trucks give them smooth performance and plenty of reserve power without any needless extra cylinders. These and many other points of superior design have made Chevrolet America's *fastest selling truck.* Such overwhelming popularity is a reliable guide to follow. You can handle every job at a much lower cost by hauling with Chevrolets—the world's lowest-priced six-cylinder trucks!

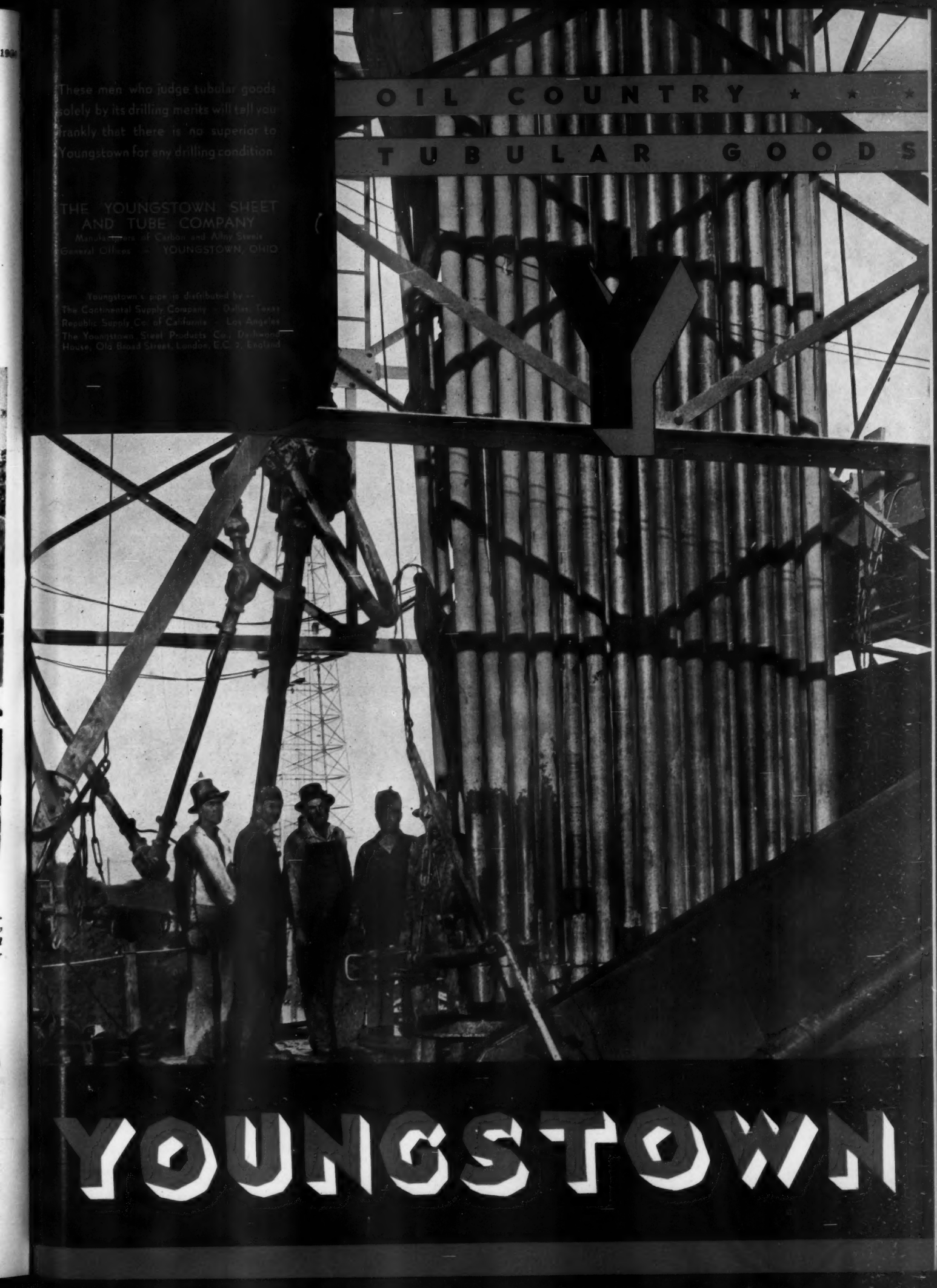
CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN

Compare Chevrolet's low delivered prices and easy G. M. A. C. terms. A General Motors Value



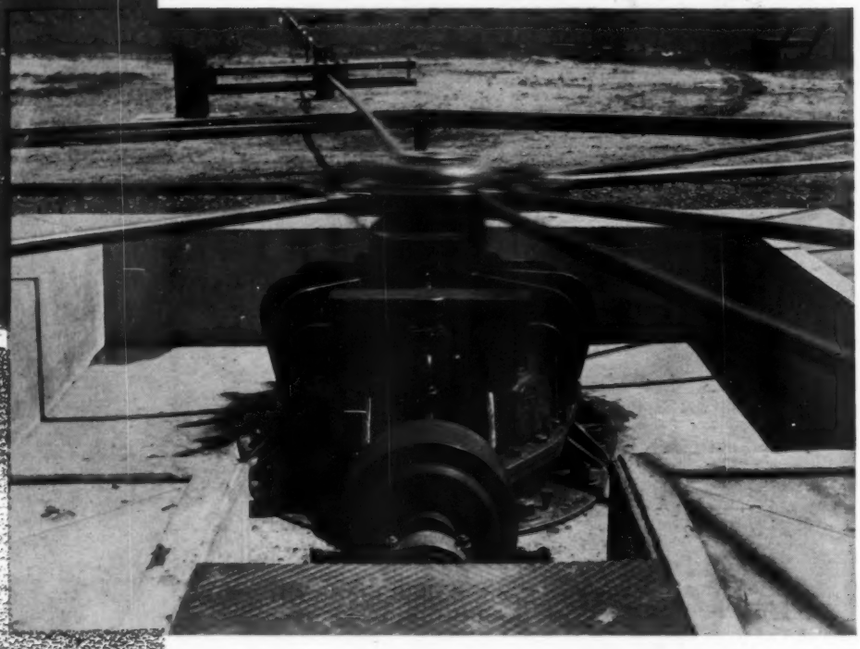
HEAVY DUTY REAR AXLE

Built for starting and pulling the heaviest loads. A straddle-mounted pinion, 4-pinion differential, oversize axle shafts, double-row wheel bearings, one-piece housing with big removable plate, and other features give extra strength and longer life.


These men who judge tubular goods solely by its drilling merits will tell you frankly that there is no superior to Youngstown for any drilling condition
THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon and Alloy Steels
General Offices — YOUNGSTOWN, OHIO
Youngstown's pipe is distributed by—
The Continental Supply Company — Dallas, Texas
Republic Supply Co. of California — Los Angeles
The Youngstown Steel Products Co., Richmond House, Old Broad Street, London, E.C. 2, England
OIL COUNTRY ★ ★ ★
TUBULAR GOODS
YOUNGSTOWN

UNFAILING RESERVOIR OF POWER-

CONTINENTAL - FALK
100 MGP - 160 MGP
GEARED POWERS



Continental-Falk 100 MGP Power Equipped with Rawson Clutch Coupling in operation on H. L. Hunt lease in East Texas

The rugged compact design of these machines coupled with the use of the finest materials available and complete automatic lubrication is your assurance of unfailing economical performance.

Built by Falk -- world's largest makers of fine gears

"Serving the Oil and Gas Industries"

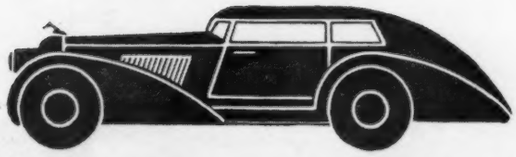
THE CONTINENTAL SUPPLY COMPANY

GENERAL OFFICES: DALLAS, TEXAS

THE CONTINENTAL SUPPLY CO., LTD., 618 Lancaster Bldg., Calgary, Alberta, Canada
Export Offices: CONTINENTAL EMSCO CO., Inc., 19 Rector St., New York
London Offices: Dashwood House, Old Broad Street, London, E. C. 2, England
CONTINENTAL EMSCO S.A.R. Strada Marfurilor, Ploesti, Roumania

MEMBER AMERICAN PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION

CONTINENTAL



MODERN

PATENT 1920570

WORM AND GEAR DRIVE DIRECT EXPANSION

WRITE FOR BULLETIN

Vogt Oil Chillers

Manufacturers of: Oil Refinery Equipment, Water Tube Boilers, Drop Forged Steel Valves and Fittings, Ice Making and Refrigerating Machinery, Heat Exchangers.

HENRY VOGT MACHINE COMPANY INC. LOUISVILLE, KY.

NEW YORK CHICAGO PHILADELPHIA CLEVELAND CINCINNATI KANSAS CITY DALLAS

This 7½-ton International Truck, Model A-8, is owned by Anderson & Kerr, Oklahoma City.

Get the Benefits of International QUALITY and SERVICE

UNTIL you have put International Trucks to work you cannot realize the savings they effect. They have an impressive record for economy of operation and maintenance that is of vital interest to every user of trucks.

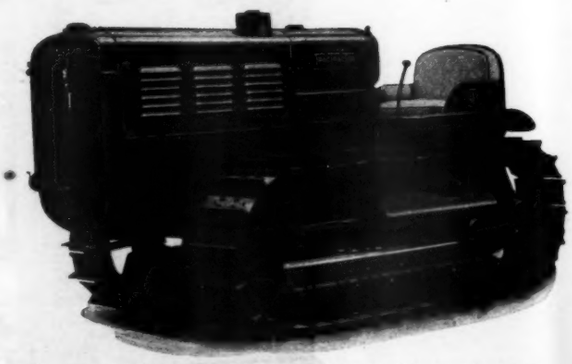
International QUALITY and International SERVICE are responsible for this record.

QUALITY is the guiding factor in International Truck engineering —and International manufacturing policy carefully guards the high standards that have been set up.

International SERVICE protects International Trucks in their daily work. International Harvester maintains 201 branches in the United States and Canada—*the largest Company-owned truck service organization in the world*—to render factory-standard service any time, any place.

Before you make a decision on the purchase of trucks, investigate Internationals. Sizes from ½-ton to 10-ton.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
(Incorporated)
606 S. Michigan Ave. Chicago, Ill.



McCormick-Deering Model T-40 TracTracTor.

More than a quarter-century ago International Harvester began to pioneer the tractor power idea. Today the McCormick-Deering line of tractors for industrial work includes seven models designed to meet every need for mobile industrial power, working either alone or as the power for a wide range of special equipment. There are four wheel-type tractors and three crawler-type tractors, including one with Diesel engine.

McCormick-Deering Power Units furnish low-cost dependable power for pumping oil wells and for other stationary power work. There are four models, including one with Diesel engine. Power range is from 30 to 52 h.p. The three gasoline engines can be equipped to use natural gas. At the left is a typical installation of one of these units in East Texas.

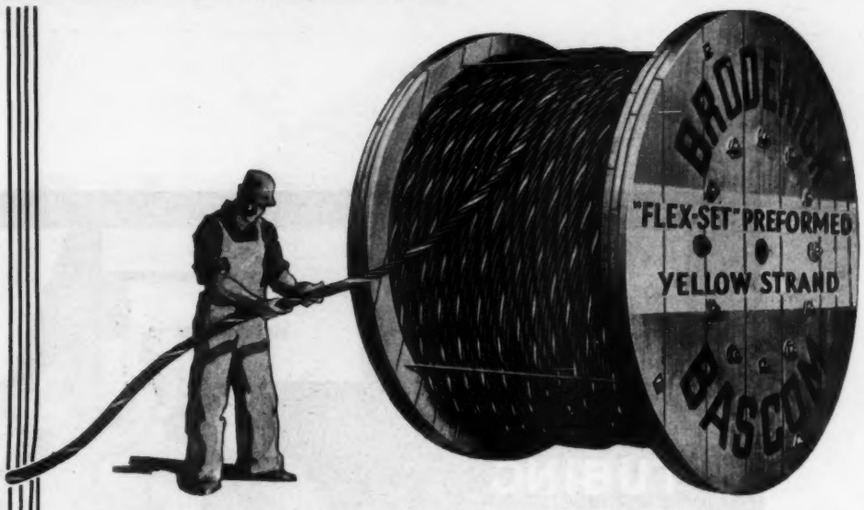
INTERNATIONAL HARVESTER

Preforming Makes a Good Rotary Drilling Line Even Better

A "Flex-Set" Preformed Yellow Strand Rotary Drilling Line is a super-rope to start with. Freed of Internal Stress by preforming, it—

1. Is "pre-broken in." Limbered up. Wires and strands already adjusted to one another.
2. Is easier to handle. Takes less time to install, to socket, to splice, thereby saving money.
3. Has less internal friction.
4. Is more resistant to kinking.
5. Is less apt to bird-cage.
6. Is less likely to crush on drum.
7. Gets less external wear because it does not twist in grooves of sheaves.
8. Won't wicker. Broken wires lie flat. No damage to adjacent wires, to sheaves, to drum, to driller.
9. Works ideally with independent wire rope center.
10. LASTS LONGER—increased service far in excess of slight additional cost.

NRA MEMBER U.S. WE DO OUR PART



Greater Savings Than Ever

for oil men, since "FLEX-SET" Preformed Yellow Strand Rotary Drilling Lines have appeared. Same supreme grade of steel wire as in standard Yellow Strand. Same rigid tests. Same selecting of individual wires to produce a rope evenly balanced in elasticity, flexibility, toughness, tensile strength.

In addition, there are *ten distinct improvements,* any one of which makes it worth your while to use "Flex-Set." (See panel.) The added "ton-miles" of service built into the line by preforming makes "Flex-Set" Yellow Strand the last word in economy.

The Continental Supply Co.

are distributors of Broderick & Bascom Oil Field Lines in all Mid-Continent Fields. All stores carry ample stocks of "Flex-Set" Preformed Yellow Strand Rotary Lines and other excellent B & B products.

Give Continental men an opportunity to show you why Yellow Strand gives such excellent results.

Broderick & Bascom Rope Co., *St. Louis*
FACTORIES: St. Louis and Seattle.

R-7

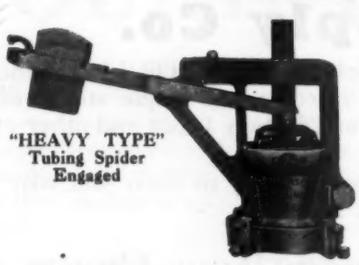
"Flex-Set" Preformed Yellow Strand Rotary Drilling Lines

NEW

GUIBERSON TUBING SPIDERS

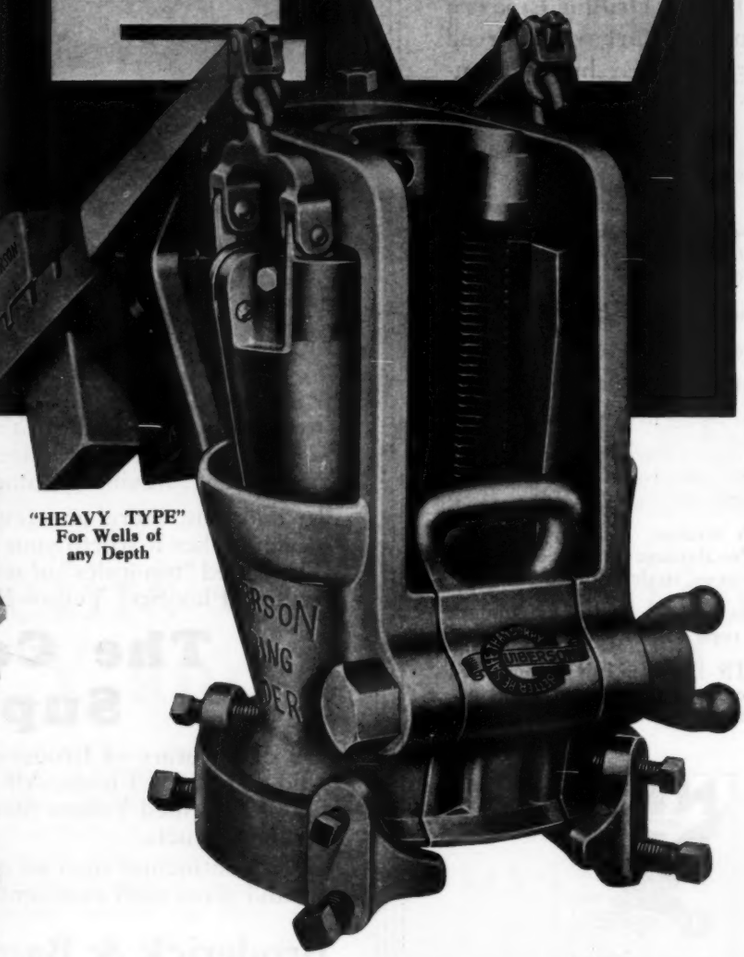
Heavy Duty
Light Weight

"HEAVY TYPE"
Tubing Spider
Open



"HEAVY TYPE"
Tubing Spider
Engaged

"LIGHT TYPE"
For Wells up to
3500 Feet



"HEAVY TYPE"
For Wells of
any Depth

A new high-speed all-steel tubing spider, in two weights. All the features that have been desired in a tubing spider but never before attained in one spider. Guide head, balanced handle, adjustable weight, and four-piece pivotly balanced slips, assure safety to both operator and tubing. Fully patented.

"Better Be Safe than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

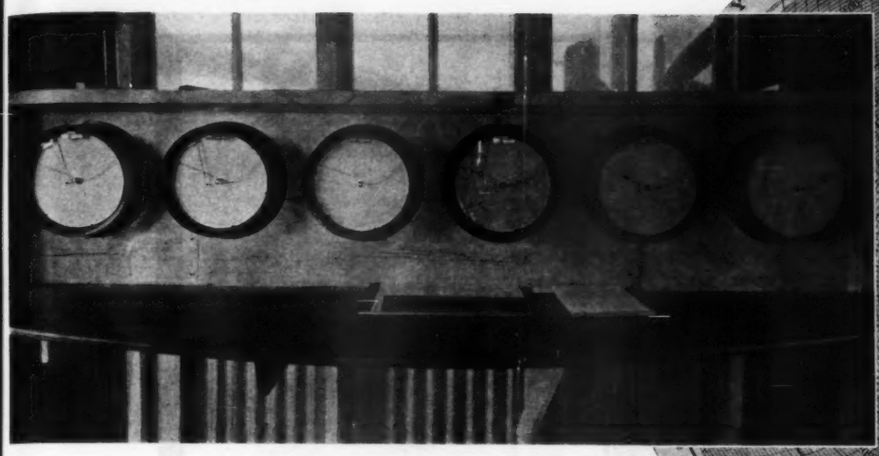
LOS ANGELES
1304 Security Title Ins. Bldg.

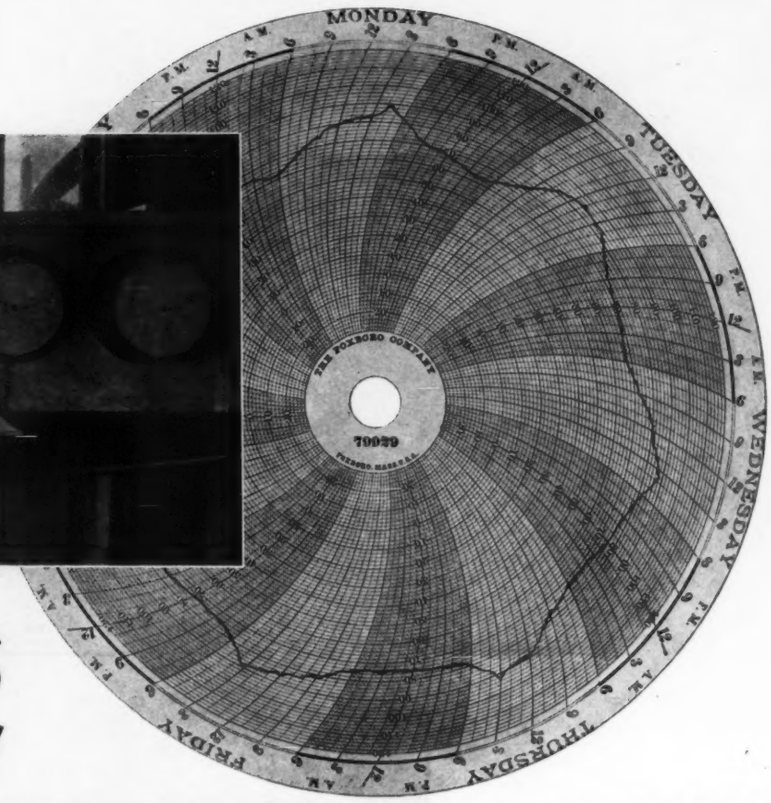
TULSA
504 Wright Building

NEWARK, O.
First & Locust Sts.

GUIBERSON

BETTER BE SAFE THAN SORRY





COSTLY LOSSES ELIMINATED BY ACCURATE TEMPERATURE RECORDS

INSTRUMENTS FOR GAS SERVICE

Orifice Meters
Flow Controllers
Saturation Controllers
Pressure Controllers
Indicating and Recording Pressure Gauges
Indicating Thermometers
Differential Limit Controller

● The responsiveness and accuracy of Foxboro's fully-compensated ANTI-AMBI Thermometer is shown on the chart above. Such records are necessary to make corrections for changes in temperature during measurement. Gas companies have prevented the loss of large quantities of gas by using this reliable recorder. (Names will be furnished on request.)

● ANTI-AMBI is the most accurate thermometer on the market that is rugged enough for gas line work. It gives TRUE TEMPERATURE day and night — summer and winter — under extreme heat and cold. Readings are not affected by ambient temperature (i. e. temperature surrounding the case and tubing). Pipe wall temperatures do not reach the sensitive portion of the bulb — it is protected by a stainless extension and a special fin-type socket.

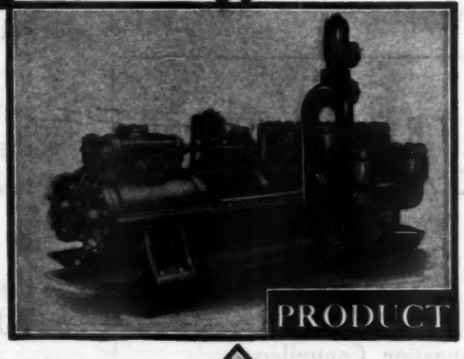
● The small bulb makes it possible to use this accurate Thermometer on any size gas line. Anti-Ambi is designed especially for the gas industry — it will save you money. Write for complete details and prices.

FOXBORO
REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

THE FOXBORO COMPANY
FOXBORO, MASS., U. S. A.
BRANCH OFFICES IN PRINCIPAL CITIES

• • INSTRUMENTS FOR PRODUCTION AND DISTRIBUTION OF GAS • •

"HERE'S *a* SLUSH PUMP *that's* BUILT *to Take It!*"



Ask almost any oil operator what he wants *most* in a slush pump and he'll answer you in one word: *dependability*. For the value of the time spent in repairing pumps that "cough" too soon may well exceed the cost of the pumps themselves!

Gardner-Denver Steam and Power Pumps are built to lick abrasive action—the biggest enemy of slush pumps. The outstanding feature of these pumps is the divided fluid cylinder. With this construction, there are no inner baffles or metal sections to be cut through by the mud, and all walls are exposed for inspection. Lubrication is positive, automatic and absolutely reliable.

Behind every Gardner-Denver Pump stands thorough and complete knowledge of field conditions. That's why you'll find Gardner-Denver Pumps staying on the job longer and costing less for maintenance. Write for our bulletin describing Gardner-Denver Divided Fluid Cylinder Steam and Power Pumps.

GARDNER-DENVER COMPANY 114 Williamson Street Quincy, Illinois

Horizontal, Vertical, Air-Cooled and Portable Compressors • • Steam and Power Pumps
Rock Drills, Accessories • • Paving Breakers • • Clay Diggers • • Hoists

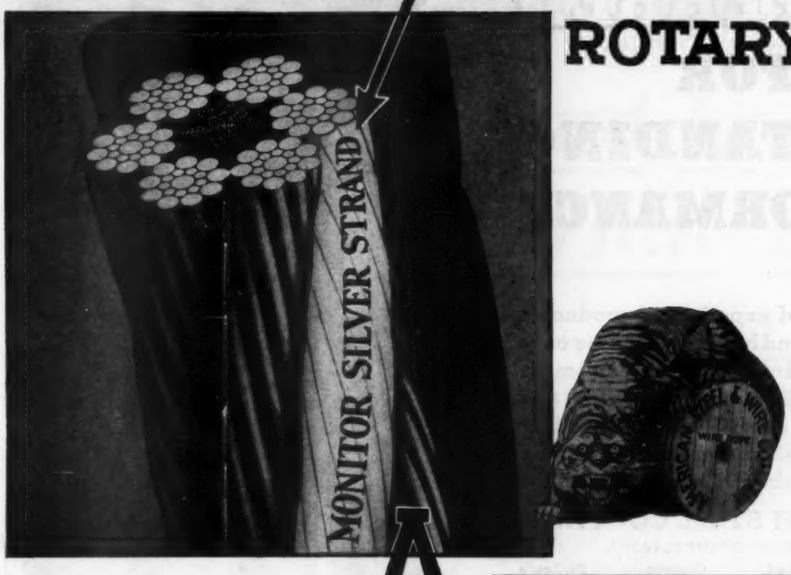
GARDNER DENVER 14½ x 7¼ x 20 STEAM PUMP

NRA

GARDNER-DENVER

MAKES AIR DO MORE AND COST LESS

"I ~~HOPE~~ KNOW I PURCHASED THE RIGHT ROTARY LINE"



A SILVER STRAND ELIMINATES DOUBT

IN THE selection of Wire Lines—the difference between "know" and "hope" is frequently the difference between economy and needless cost. There is never a doubt, as far as Wire Line quality is concerned—or economy either—when a Silver Strand governs choice. Monitor Silver Strand Rotary Lines are made exclusively by the American Steel & Wire Company—the largest manufacturers of Wire Lines in the world—and service records prove them superior in wear, strength and endurance. Perfectly constructed of the highest quality steel—and with abrasion resisting factors—they are waiting to serve you—to substitute "know" for "hope" in your next Rotary Line order.

AMERICAN STEEL & WIRE COMPANY

MONITOR

SILVER STRAND ROTARY LINES

1831 1934

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago
94 Grove Street, Worcester

SUBSIDIARY OF UNITED STATES STEEL CORPORATION AND ALL PRINCIPAL CITIES

Empire State Building, New York
First National Bank Building, Baltimore

Pacific Coast Distributors: Columbia Steel Company, Russ Bldg., San Francisco

Export Distributors: United States Steel Products Company, New York

Pittsburgh PREFERRED FOR OUTSTANDING PERFORMANCE

The approval of experienced producers can be gained and held by one thing only —results. The enthusiastic endorsement of Pittsburgh Seamless Drill Pipe and Casing by such men is evidence that they have formed their preference on the basis of proved "Pittsburgh" performance.

PITTSBURGH STEEL COMPANY

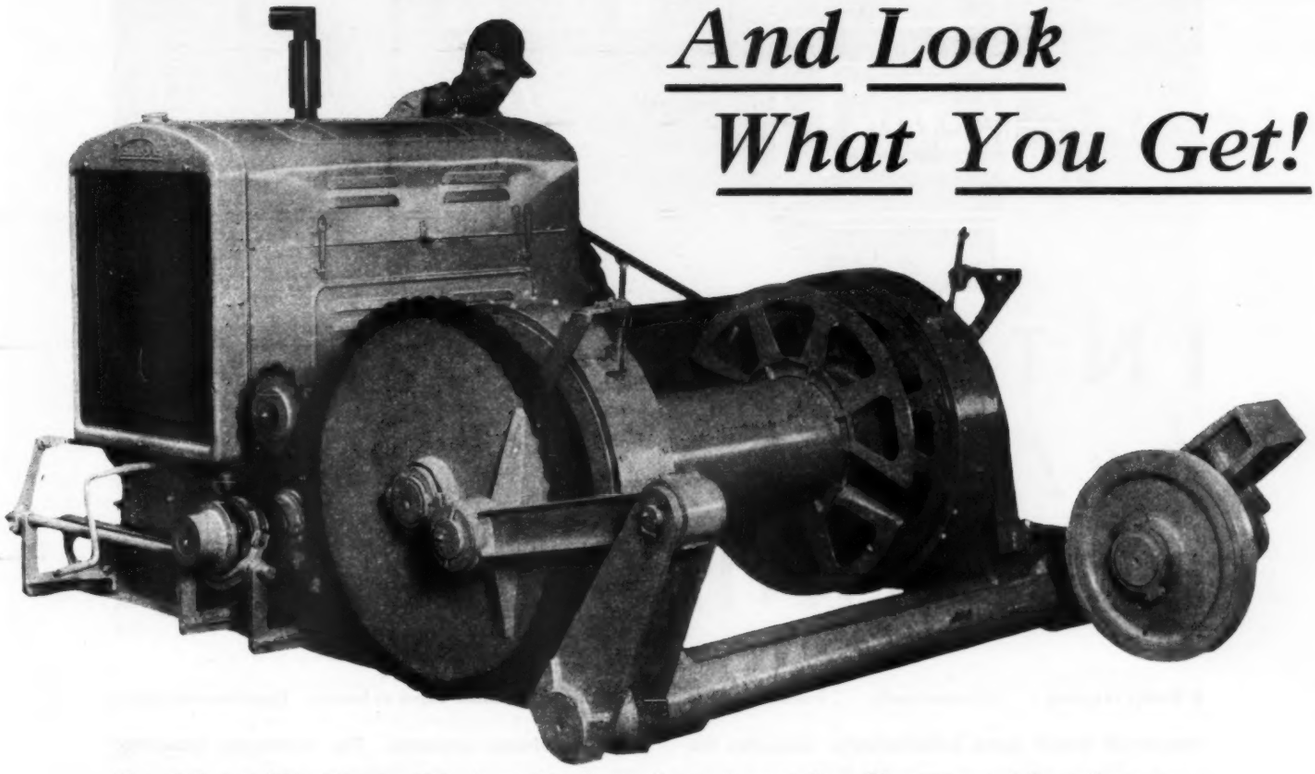
PITTSBURGH • PENNSYLVANIA

New York Detroit Chicago St. Louis
Tulsa Los Angeles Houston

$2891.00

F. O. B. WICHITA $2,950.00
2% for Cash 59.00
$2,891.00

And Look What You Get!



Spudder with changeable length of stroke—4 speeds—Demountable when not needed for Cleanout, Fishing Jobs, Well Deepening or Drilling—leaving a highly portable Oilwell Servicing Unit.

86 H. P., 6-Cylinder Motor with Starter, Generator and Battery.

Drum equipped with quick-engaging, positive clutch, which may be engaged while in motion.

Timken bearing equipped, internally oiled drum.

Hyatt bearing equipped countershaft.

Drum flanges—32″ diameter by 7″ wide, providing 1375 square inches of effective brake area.

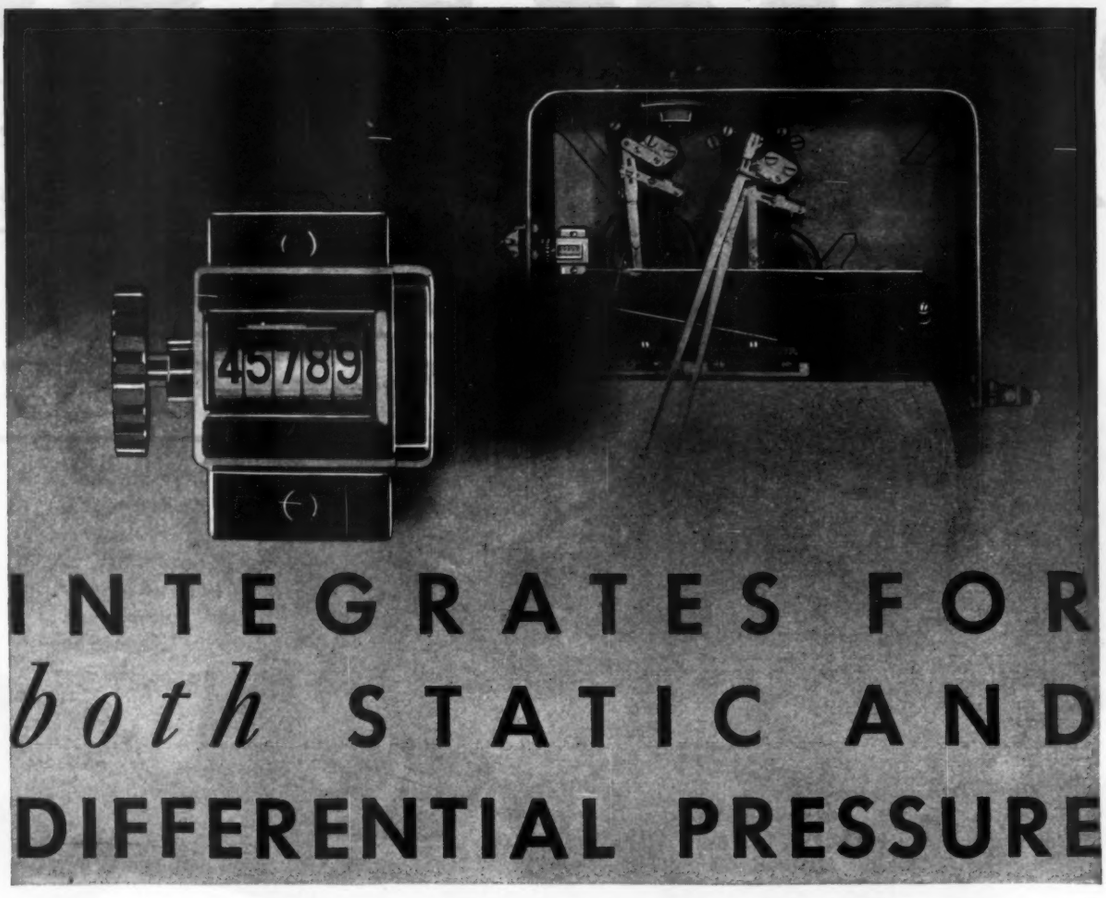
Wedge action, quickly demountable brake bands, with 7″ x ⅝″ precast brake blocks.

4200 feet—¾″ line capacity.

Phone, Wire or Write Us for Further Particulars

ALLSTEEL PRODUCTS MFG. CO.

Phone: Long Dist. 289 **Wichita, Kansas** 801 So. Wichita



INTEGRATES FOR *both* STATIC AND DIFFERENTIAL PRESSURE

● Direct reading . . . automatically . . . instantly! The INTEGRATING ORIFICE METER automatically computes the metered volume for variation in pressure and rate of flow. The total is always visible on the index. And the chart continues to give you a permanent hourly record for analysis and future reference. ● The operation is continuous . . . all functions being performed mechanically by special gearing without the use of clutches, reversible cams or levers. Thus the indicated total is always accurate. The INTEGRATING FLOWMETER operates on the same principle, but at constant pressure. ● These instruments have proved highly successful in measuring gas, air, steam, oil, water and other fluids. Engineering bulletin E-16 fully describing applications and operation will be sent you on request.

AMERICAN METER COMPANY
INCORPORATED
Measurement and control of Gas, Oil, Steam, Air and Liquid

METRIC METAL WORKS • ERIE, PA.

Albany Baltimore Birmingham Boston Chicago Denver Erie Kansas City
Los Angeles Philadelphia Pittsburgh New York San Francisco
WESTSCOTT & GREIS, INC., Dallas, Tulsa CANADIAN METER CO LTD., Hamilton, Ontario

247

THE OIL AND GAS JOURNAL

Volume 33
Number 10

July 26, 1934

SUBSCRIPTION RATES: Domestic, 1 year, $6; 6 months, $3. Canadian and foreign, 1 year, $7; 6 months, $3.50. All subscriptions payable in advance. When extra copies of special issues are available they are reserved for subscribers' needs and may be bought by subscribers at 50 cents each

SPECIAL ARTICLES

Claimed Illicit Oil Production in East Texas Is Greatly Lowered With Oil Demand Increased ---- 21
By JAMES McINTYRE
Heavy Equipment Upon Home Made Substructure Permits Deepening ---- 22
By NEIL WILLIAMS
Revised Hot Oil Regulations; Price War Committees Next ---- 23
By HUGH D. MALLON
Administrator's Report on Crude Stocks ---- 23
Double Coil Exchanger in High Pressure Work ---- 24
By DANIEL IRWIN
Well Pumped by Pneumatic Lift Handling Large Volume 25
By L. G. E. BIGNELL
Combination Natural Gasoline Plant and Crude Stabilizer 26
The First Half Year (Editorial) ---- 36
Strengthening Enforcement (Editorial) ---- 36
Pipe Line Construction ---- 48
Disposal of Water in Economical Operation of Refineries 50
By DANIEL IRWIN
Plug Type Valves Used for Many Purposes ---- 65
By L. G. E. BIGNELL
Believers in Non-Scientific Appliances for Finding Oil ---- 74
Service Value of Cracked and Leaded Gasolines of Same Octane Number ---- 80
By G. G. BROWN and S. C. SINGER, JR.
Care of Old Properties in East ---- 95
By HERMAN J. LITTLE
Field Problems From Readers ---- 140
Edited by T. F. SMILEY

SEMI-ANNUAL REVIEW

Many Pools Opened in First Half of Year ---- 28
By JAMES McINTYRE
More Production and Greater Value During First Six Months, 1934 ---- 30
By JAMES McINTYRE
Notable Half Year in Michigan Fields ---- 32
By PAUL A. ELLIOTT
Refined Prices Stabilized at Higher Levels ---- 66
By W. T. ZIEGENHAIN
Average Domestic and Export Refined Prices for Three Years ---- 67
Gasoline Prices Top Those of First Half of 1933 ---- 68
By T. F. SMILEY
Service Station Prices in Fifty Representative Cities ---- 69
Oklahoma Completes 900 Wells in First Half of Year ---- 70
By JAMES McINTYRE
Exports Gain; Receipts From California Increase ---- 73
By C. O. WILLSON
Several Prospective Areas in California ---- 77
By L. P. STOCKMAN
Seven New Pools in Gulf Coast Area ---- 81
By NEIL WILLIAMS
Louisiana-Arkansas Had Busy Half Year ---- 86
By J. R. CRUMPTON
Kansas Had Highest Production Since 1918 ---- 90
By JAMES McINTYRE
East Texas Property Changed Hands in Six Months ---- 97
By L. E. BREDBERG
Complete 1,100 Wells in Pennsylvania Grade Fields ---- 99
West and North Texas Share Increased Developments 100
By L. E. BREDBERG
Central West Had Revival of Field Work ---- 103
Increased Allowable and Price Aid Panhandle ---- 104
Busy Six Months in Southwest Texas ---- 106
Discoveries in Southwest New Mexico Rocky Mountain Feature ---- 109
By TOLBERT R. INGRAM
Western Canada Showed Increased Production ---- 112
By VICTOR LAURISTON
Pipe Line Construction in 1934 Mostly Short Lines ---- 114
Crude Oil Price Changes in First Six Months ---- 116

FIELD OPERATIONS

Late Fields ---- 48
West and North Texas ---- 53
East Texas ---- 54
Southwest Texas ---- 62
Oklahoma ---- 121
Kansas ---- 124
Gulf Coast ---- 125-126
California ---- 128
Michigan and Central West ---- 131
Eastern Fields ---- 134
North Louisiana-Arkansas, Mississippi ---- 135
Rocky Mountain Area and Canada ---- 136

REFINING AND MARKETING

Evidences of Increasing Confidence in Gasoline Purchasing Plan Visible in Group 3 Area ---- 38
By T. F. SMILEY
New York Market ---- 39
By C. O. WILLSON
Refining and Crude Prices ---- 40-41
Tank Wagon Markets ---- 42
News for Petroleum Refiners ---- 44
Natural Gasoline Manufacture ---- 46
Chicago Market ---- 47
Technical Questions Answered ---- 139
By C. K. FRANCIS, Ph. D.

GENERAL DEPARTMENTS

Field Operations in June ---- 118
Natural Gas Developments ---- 141
Personal Paragraphs ---- 142-143
Market Record of Oil Securities ---- 144
New and Improved Equipment ---- 149
Index to Advertisers ---- 152

Refinery Section Starts on Page 38

Branch Editorial Offices

WASHINGTON	CHICAGO	DENVER	FORT WORTH	HOUSTON	LOS ANGELES	PITTSBURGH
Hugh D. Mallon 808 Investment Bldg.	616 S. Michigan Ave.	Tolbert R. Ingram State Office Bldg.	L. E. Bredberg Petroleum Bldg.	Neil Williams 809-10 Sterling Bldg.	L. P. Stockman Union Oil Bldg.	P. O. Box 1345

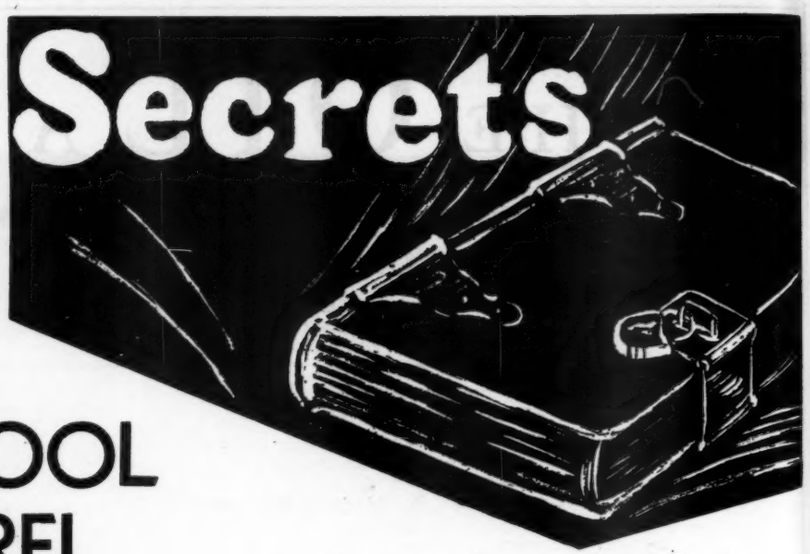
MUSKEGON	SHREVEPORT	TOLEDO	NEW YORK	OIL CITY	CHATHAM, ONT.
Paul A. Elliott Chronicle Bldg.	J. R. Crumpton 540 Ricou Brewster Bldg.	George A. Whitney Box 98, Main P.O.	C. O. Willson 415 Lexington Ave.	R. C. Conine Oil City Derrick	Victor Lauriston 35 Stanley Ave.

Branch Advertising Offices

NEW YORK	CLEVELAND	CHICAGO	LOS ANGELES	HOUSTON
C. L. Cain 415 Lexington Ave.	Howard Markt 802 Leader Bldg.	C. R. Farmer 616 S. Michigan Ave.	J. H. Tinkham 2941 Raymond Ave.	Paul T. Putnam 809-10 Sterling Bldg.

Copyright, 1934, by The Petroleum Publishing Co.

No More Secrets



You can stop guessing from bailer samples when you start using the . . . .

BAKER CABLE TOOL CORE BARREL

Modern drilling programs demand that each core should be a complete cross-section of the formation being penetrated—accurate in every detail—a *perfect* core such as you can secure only with the Baker Cable Tool Core Barrel.

A BAKER CORE IS LIKE A BOOK

Each Baker Core is like a book—you open it and study it. It tells you where to locate casing seats for water shut-offs. It tells you whether the sands are dry, or water-bearing, or oil-bearing. You can determine the porosity—in fact you can *know* every important fact.

ANY DRILLER TAKES GOOD CORES

And any driller can use it successfully. Thousands of drillers have operated the Baker Cable Tool Core Barrel over a period of years, in practically every oil field of the world. Merely make sure that the two valves are in good working condition—place the core barrel in the same position as an ordinary bit—and keep the inner core tube on bottom all the time you are drilling. Just do these simple things and you will get *perfect* cores *every* time, without *any* loss of time, and at *less cost* than by any other method.

HERE'S WHY IT PAYS TO CORE

You eliminate danger of passing through sands which might be made productive by "shooting" or similar means. You can select correct casing locations. You can determine the proper locations for water shut-offs. You can find any breaks which may separate oil from water-bearing horizons. You can test sands for porosity. You can positively know whether sands are water-bearing, oil-bearing, or dry. You can approximate inclinations of the formation. You can study the lithographic and paleographic character of the formations.

CORES ARE EASY TO TAKE—

The simplicity of design and operation of the Baker Cable Tool Core Barrel has won the approval of the men who have used it. Just bail the hole free from cavings and iron—leave thirty feet of fluid in the hole—place in the same position as an ordinary bit—shorten the stroke—use slower motion—keeping the inner tube on bottom, always. And you will take perfect cores.

COMPLETE INFORMATION FREE

Upon request we will gladly send you the complete illustrated bulletin which contains details of construction, operation and advantages of the Baker Cable Tool Core Barrel. This should be in your files, whether you plan coring now or for the future. Please address the nearest Baker Office.

FLUID ACTION —

The valve in the outer barrel opens on the up-stroke, permitting fluid to enter the barrel. This valve, and the valve in the inner core tube head, close on the down stroke, producing a hydraulic effect which accounts for much of the efficiency of the Baker Cable Tool Core Barrel. Fluid is forced downward between the outer and inner tube, serving to keep the cutting edges of the drilling and trimming shoes cool and clean.

DRILLING IS NOT SLOWED UP—

In most formations, coring is as fast as drilling. Drillers often make as much hole per run with the Baker Cable Tool Core Barrel as they do with regular bits.

MORE THAN 80% RECOVERY—

Core recoveries with the Baker Cable Tool Core Barrel are always high—practically 100% recovery of perfect core is not unusual—85% recovery is the average under all conditions.

LOW COST OPERATION—

The original cost of a Baker Cable Tool Core Barrel is low, and operating expense is nominal, when compared with the perfect results obtained. For example,—the No. 6 size will core and drill to gage from 5⅛" to 6¼" and even larger, (depending upon size of shoe) and costs only $525.00, freight allowed to any shipping point in the United States.

On the up-stroke, with inner (core-taking) tube remaining on bottom in correct position.

Specimen core, showing true cross-section of the formation.

NRA MEMBER U.S. WE DO OUR PART

BAKER OIL TOOLS, INC.

SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

POST OFFICE BOX 609 ▲ HUNTINGTON PARK, CALIFORNIA

COALINGA ▲ TAFT ▲ HOUSTON ▲ OKLAHOMA CITY ▲ TULSA ▲ NEW YORK CITY

Claimed Illicit Production of Oil in East Texas Is Greatly Lowered With Oil Demand Increased

By JAMES McINTYRE

IT is claimed that the quantity of illicit or hot oil being run from leases in the East Texas Field has been reduced to a minimum but that the legitimate demand for crude has increased.

The Oil and Gas Journal's field men in reporting the production of that area for the past week show less than a 10,000-bbl. drop in production as compared with the previous week; also that nine East Texas refineries, which were shut down, have resumed operations. It is true that the quantity of oil thrown on the market by East Texas operators is much less now than it was in the summer of 1933. In the two weeks from July 9 to July 22, both inclusive, in 1933, the average production of the field was 651,925 bbls. per day, while in the past two weeks the average was 535,700 bbls. This shows a great falling off in production, "hot" and otherwise, in the course of a year, but on the other hand the average output of the field for the first half of this year was about 500,000 bbls. a day.

The long drought in mid-continental United States has hit the North Texas area very hard. as about 70 per cent of the rotary operations in that big area are shut down for want of water.

In the Louisiana Gulf Coast the Bosco Pool was extended three quarters of a mile by a 1,000-bbl. well. An important discovery of the week was production on the north side of the West Hackberry dome in Cameron Parish. Indications of a new producing sand southeast of the old Boling Field in Fort Bend County was a feature in the week in the Texas side of the Coastal Field.

The conclusion of the strike of marine workers in San Francisco greatly relieved the oil situation in California and refined products are again flowing freely into the channels of trade. Consumption in the state was reduced 15 per cent by the strike. The possibility of a new commercial gas field in the Buena Vista Lake district and of a heavy oil pool in the Santa Maria district are among the California news features.

In Oklahoma the discovery well in the Polo Pool in Noble County has found production in the upper and lower Wilcox sands and the well has shown a production of over 1,400 bbls. per day while drilling. It was not through the second sand.

In Kansas a wildcat in Section 10-18-16w opened a new productive spot in Rush County. It was not completed, but was making about 8,000,000 feet of gas and spraying 100 bbls. of oil from silicious lime.

A second oil producing well in the recently opened pool west of Tuleta in Bee County, Texas, adds to the importance of the pool particularly as it is 2,800 feet distant from the discovery well.

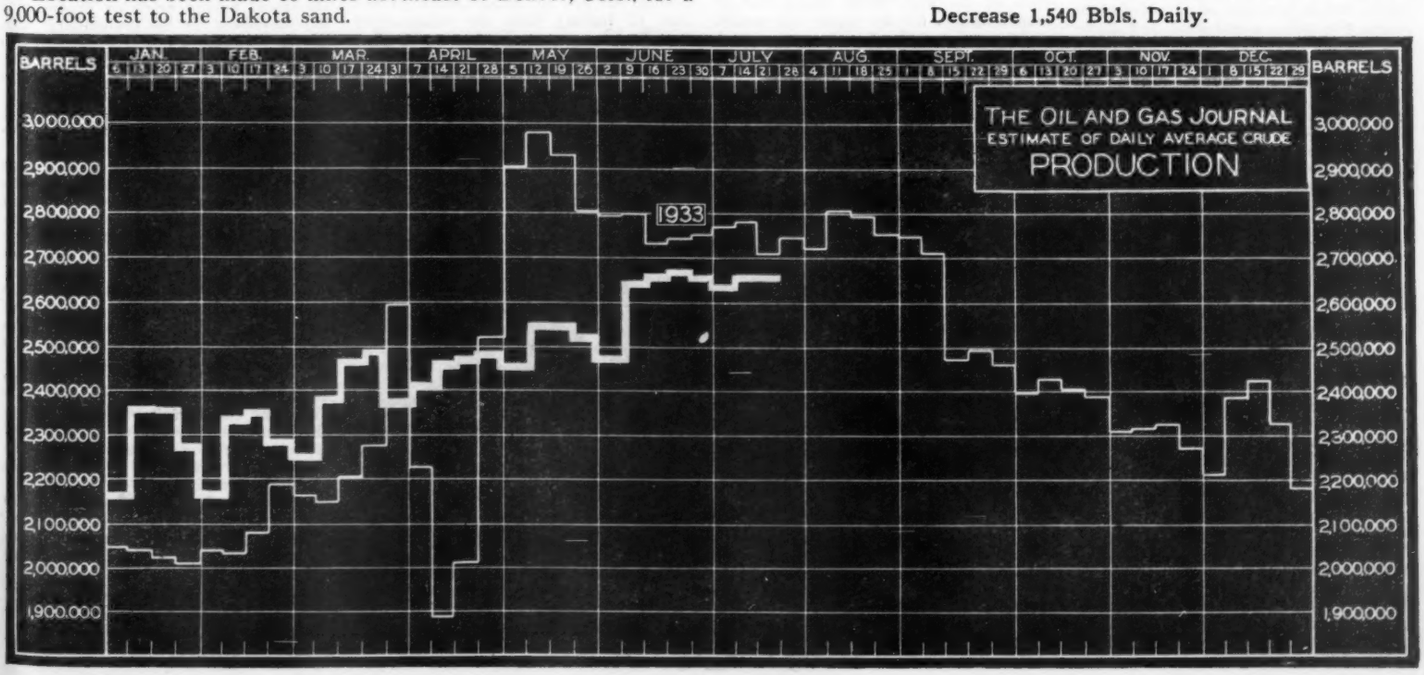
Location has been made 10 miles northeast of Denver, Colo., for a 9,000-foot test to the Dakota sand.

Crude Oil Production in the United States

Estimated daily average production for the week ending July 21, and a comparison with previous week and the Federal allowables follow:

	July 21	Federal allowable in July	July 14
Oklahoma—			
Oklahoma City	190,135	.....	210,300
Seminole-St. Louis	104,480	.....	107,215
Remainder of State	241,060	.....	233,545
Total Oklahoma	535,675	489,500	551,060
East Texas—			
Lathrop	223,530	.....	227,530
Kilgore	162,470	.....	165,380
Joiner	144,950	.....	147,540
Total East Texas	530,950	.....	540,450
West Texas	141,165	.....	135,562
North Central Texas	92,195	.....	91,995
Texas Panhandle	61,558	.....	58,615
East Central Texas	50,713	.....	51,247
Gulf Coast—Texas	170,305	.....	167,442
Southwest Texas	56,750	.....	56,005
Total State of Texas	1,103,636	1,042,100	1,101,316
Kansas	135,535	134,500	135,070
North Louisiana	24,855	.....	24,835
Gulf Coast—Louisiana	70,210	.....	68,745
Total Louisiana	95,065	88,900	93,580
Arkansas	31,820	33,000	31,810
Eastern Fields (except Michigan)	107,000	108,900	99,000
Michigan	29,623	33,200	30,258
Rocky Mountain area	96,520	90,800	96,570
California—			
Santa Fe Springs	41,750	.....	42,700
Long Beach	68,000	.....	69,500
Mountain View	6,200	.....	6,950
Elwood	11,400	.....	11,100
Kettleman Hills	76,500	.....	63,500
Remainder of State	327,650	.....	334,900
Total California	531,500	509,400	528,650
Total United States	2,666,374	2,530,300	2,067,914

Decrease 1,540 Bbls. Daily.



Heavy Drilling Equipment Upon Home Made Substructure Permits Deepening of Well

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., July 23.—Unusual situations are not unusual in Gulf Coast drilling operations, different problems and conditions having to be met at all times. In most instances, however, these are overcome by some ingenious idea or special feat of engineering. Typical was the job the Texas Co. undertook recently of rigging up over a producing gas well on its large McFaddin ranch block in southwestern Victoria County to deepen it in exploration for possible underlying oil sands.

This well, No. 2 McFaddin, was completed in 1931 at a depth of 2,025 feet and has been supplying fuel for subsequent development on the block. It has been producing through drill pipe left in the hole when the well blew in unexpectedly while drilling the shallow sand. The completion of another gas well (No. 6-A McFaddin) several weeks ago made No. 2 unnecessary for fuel purposes so the company decided to kill it and carry it to lower horizons. The new gasser is one of the relief wells which were drilled in combatting the high pressures encountered in the shallow sands of this district and was brought in from a sand at 3,075 feet.

To deepen No. 2 McFaddin, the Texas Co. wanted to use the large Doheny Stone Drill Co. rig which was in the field and with which the hazardous high pressure shallow gas sands were successfully negotiated in the last deep test drilled. Use of that outfit, however, necessitated a large space under the derrick floor to accommodate the massive blowout prevention and pressure drilling equipment.

Ordinarily this space would have been provided by the excavation of a large cellar, but in the case of the McFaddin gasser the cellar would have had to be dug around the well, after which the pipe, with the well connection on top, would have had to be cut off, leaving the well entirely unprotected during the work of rigging up. In view of the shallow, high pressure gas charged sands which have been encountered in that district and which present an ever present possibility of blowouts, such a procedure would have been extremely hazardous.

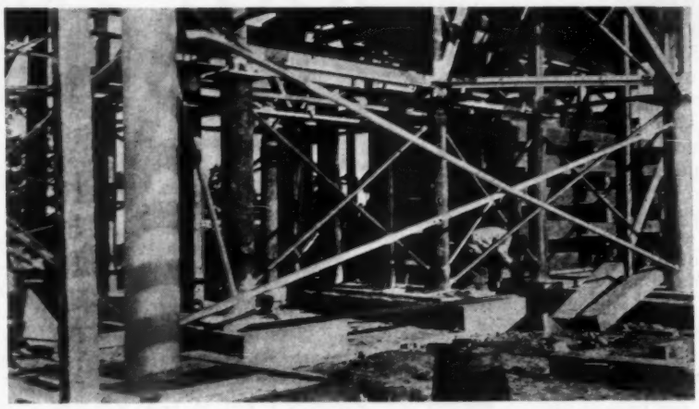
The only alternative which the company had was to elevate the derrick to a sufficient height to provide the necessary space over the gas well. By this method, the time involved in removing the well connections and connecting the blowout prevention and pressure drilling equipment could be reduced to a minimum.

Unusual Setup

This the company decided to do. How it was to be done was another question but this problem was left to Gunn Brothers, derrick and rig builders, who, with the co-operation of the Texas Co. engineers, designed and built the unusual foundation setup provided for the well described in this article.

As it stands, a standard 122-foot steel derrick and regular 8-foot steel substructure, together with the engine base, is set up intact upon an auxiliary substructure or foundation giving the derrick floor a clearance of a little over 16 feet from the ground.

The auxiliary substructure was fabricated almost entirely at the location of the well from material on hand. The legs of the structure are sections of old casing, each 8 feet and 1 inch long. Eight of these, one for each of the four corner legs of the substructure, and one each for the four middle legs underneath the derrick, are 12½-inch (inside diameter), or 13⅜-inch (outside diameter) casing. Two additional legs, one each for the support of the two substructure legs on the back side of the derrick on either side of the engine base, are sections of 10-inch casing.



Closeup showing construction of special foundation built for The Texas Co.'s No. 2 McFaddin, McFaddin District, Southwestern Victoria County

The concrete bases, on which the legs rest, are each 8 feet square, and comprise a part of a solid concrete slab which was poured around the well covering nearly the entire area under the derrick floor. The legs are bolted to these concrete bases through the heavy steel plates which were welded on the bottom ends of the legs. These plates are 30 inches square. Similar plates are welded on the tops of the legs and on which the legs of the upper substructure rest and are bolted.

Single Integral Base

In addition to being bolted to the concrete bases, the legs are filled with cement, making them a solid part of the base itself. Bracing for the legs is constructed of scrap 2-inch pipe, and with all ends and connections welded in place, the entire auxiliary substructure is a single integral unit or base for the derrick and its regular substructure which rests on it. In the construction, all the outside corner legs are tied together, top and bottom, around the derrick by cross braces. Also, each of the outside corner legs is braced similarly with the corresponding center legs, which in turn are tied together. All welding was by the acetylene method, and not only were the ends of the pipe welded into the legs of the structure but also the pipe was welded together in the middle at the crosses.

Four additional legs are provided for the support of the rotary. These also are sections of 12½-inch (inside diameter), or 13⅜-inch (outside diameter) casing, but are 10 inches higher (8 feet and 11 inches) than the substructure legs. They are set up in the same fashion being placed between the four middle or center legs of the substructure, two on a side. Laid across the tops of these in parallel are the two heavy truss beams, each 20 inches high and approximately 9 feet long, on which the rotary rests. These are bolted on and held in place by 1¼-inch turnbuckles, tied into the four inner substructure legs.

Rigging up to deepen The Texas Co.'s No. 2 McFaddin, a gas well in the McFaddin District, Southwestern Victoria County. Picture shows how derrick and substructure was set up on special foundation to eliminate necessity for digging a cellar

Elevated Engine Base

The standard engine base, which also is elevated, is supported by a foundation of heavy timbers built up in cross layers. In the construction of this, the timbers are held in place by interlocking grooves or notches at the intersections which eliminate the necessity of any bolting or tieing. This foundation is braced to the substructure foundation to form a solid unit.

An added feature of the setup is a 3-foot walkway which has been provided, running entirely around the outside of the derrick floor and the engine base. The elevation of the derrick makes this particularly desirable as a safety factor for the men. The loading chute from the derrick floor is 28 feet long.

As this is written, the well is drilling below 4,080 feet, having made 2,055 feet of hole since the well was killed and started drilling deeper. This is the second test in the district on which the large Doheny Stone Drill Co. rig has been used, the other being No. 8 McFaddin, which was abandoned decently as a dry hole.

State Jobbers Affiliate to Form National Body

CHICAGO, July 23.—For the first time an organization is in existence grouping on a national basis the interests of the state oil marketing associations. The past week saw the permanent organization of the State Executives Council, formed to include in its membership the officers of the various state associations. Fourteen such state groups participated in this meeting but the organization is inviting members from every state association in the United States.

I. A. Archambault, head of the Pennsylvania Oil Co., Evanston, Ill., and president of the Illinois Petroleum Marketers Association, was made permanent chairman, having acted as organizer of the movement in its preliminary form. He is planning an active campaign in the interests of oil marketing concerns. It is hoped to give state groups a united voice in questions before the petroleum administration and the industry. E. E. Hadlick, of the Northwest Petroleum Association, was named secretary.

One of the first actions taken was to ask the Petroleum Administrative Board to limit to county lines the grouping of buying under commercial consumers' contracts in order to obtain the permitted discounts. The present plan of unlimited grouping was asserted to be a discrimination in favor of the large companies. The group also asked that the board permit a hearing on the question of margins in various areas before declaring operative the oil marketing agreements.

A letter was dispatched to Petroleum Administrator Ickes on the subject of his recent claim of improvement in the petroleum industry under operation of the administration. It was stated such improvement was not in evidence in the marketing branch.

It is planned to hold meetings of the new council once a month in Chicago. Those participating in permanent organization included officials of the associations from Nebraska, South Dakota, Kentucky, Iowa, Indiana, Michigan, Missouri, Kansas, Ohio, Wisconsin, Illinois, Minnesota, North Dakota, and Oklahoma. It was voted to support the activities of the National Oil Marketers Association.

Administrator Announces Revised Regulations; Local Committees to Act on Price Wars

By HUGH D. MALLON

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., July 23.—A thorough revision of all the "hot" oil regulations has been announced by the oil administration. These new regulations supersede those issued in July, 1933, at the outset of the petroleum administration, and are designed to keep crude production within the limits of consumptive demand. They were recommended by the Division of Investigations and the Petroleum Administrative Board to meet administrative and enforcement requirements which have developed in the past year and which are not adequately covered by the original orders.

Secretary Ickes, oil administrator, said concerning the new regulations: "The revised regulations form one of the fundamental steps we are taking for restoration of the industry and wise utilization of our oil resources in reshaping our program for efficient enforcement. They will meet weaknesses which have appeared in the development of our plans under the previous regulations, and will materially strengthen our weapons for going after the 'hot' oil operator and curbing his destructive policies."

Heavy Penalties

Section 35 of the U. S. Criminal Code will be utilized in enforcing these new regulations. This section of the code was approved at the last session of Congress and permits the assessment of a fine of not more than $10,000 or imprisonment for not more than 10 years for the making of false statements with respect to any matter falling under the jurisdiction of any governmental agency. This new law will be applicable to the reports required under these regulations, and provision is made for imposition of this severe penalty, in addition to the penalty of a $500 fine or not more than six months in jail which is provided for in the National Industrial Recovery Act for a violation of the "hot" oil provisions included in that act.

Official report forms for use in Texas under these rules bear the warning that false certification of these reports can be punished under the criminal code provisions and it is confidently expected by the petroleum administration that the application of this new law will greatly curtail illegal production.

New Provisions

Major new provisions in the regulations, which were worked out by the oil administration with the assistance of John Kilgore, chief counsel of the Texas Petroleum Council, are:

Every producer and manufacturer must accurately gauge the amount of petroleum or petroleum products handled and not use any device to prevent such measurement. This is intended to meet the practice of using by-passes to facilitate the unseen drawing off of oil.

The records of all persons dealing with oil and its products must be more adequate and exact, with all details concerning the origin and history of the oil or products being handled.

Carriers are made liable for punishment if they accept a shipment of oil or oil products which is not accurately billed.

All persons engaged in producing or handling oil are required to permit agents of the Department of the Interior to have free access to their books, inspect their wells, pipe lines, tanks, plants and all equipment. Heretofore, the agents have had in the main only access to the books of operators.

Hereafter every producer in the East Texas Field will be required to file with the Division of Investigations a chart truly showing the location of every well on his property and all outlets from it, drawn to scale. This last rule, it is felt, will very adequately stop the practice of having underground by-passes from pipe lines, as well as stop the tapping of wells below the surface for the purpose of drawing off oil secretly.

Text of Regulations

The regulations provide: ,

No transporting agency shall receive for transportation any petroleum or the products thereof unless the respective shippers and producers hereinafter described shall each furnish and the transporting agency shall receive in good faith and without reasonable grounds for believing that any facts stated are untrue, sworn affidavits setting forth such information as may be required on forms approved by the Secretary of the Interior. The following rules and classifications shall govern the furnishing of affidavits under this regulation:

Class A Shipments—Any shipment of petroleum, offered for shipment to any transporting agency in the East Texas or Oklahoma City areas. Class A shipments shall be supported by affidavits of both the shipper and the purchaser as shall be required on forms approved by the Secretary of the Interior.

Class B Shipments—Any shipment of the products of petroleum when such products are, after processing or refining, offered for shipment to any transporting agency in the East Texas or Oklahoma City areas. Class B shipments shall be supported by an affidavit of the shipper as shall be required on forms approved by the Secretary of the Interior.

Class C Shipments—Shipments of petroleum or the products thereof when such shipments are made from a point outside the East Texas or Oklahoma City areas. Class C shipments need not be supported by affidavits.

Provided, however, that under this Regulation 7, carriers outside of the state where such petroleum was produced may receive from other carriers for such transportation and may transport any petroleum or the products thereof without requiring such affidavits and shall not be subject to any liability or penalty from or on account of so receiving or transporting the same.

Provided further, that with respect to the products of petroleum any carrier or carriers may receive from other carriers for such transportation such products if the affidavit required for Class "B" shipments is furnished to the originating carrier and due endorsement of its receipt is stamped upon the shipping papers.

Provided further, that the provisions of this regulation shall not apply to shipments of the products of petroleum by rail in less than carload lots.

Provided further, that where consignments of petroleum or the products thereof are offered for shipment in intrastate commerce and are subsequently in any manner diverted into interstate commerce in whole or in part, the interstate carrier may not accept such petroleum or such products unless the provisions of this regulation are complied with.

New Forms Approved

Administrator Ickes Approved forms entitled "OES-1," "OES-2" and "OES-6" for use in the East Texas area, provided, that if the petroleum offered for shipment as a "Class A" shipment was produced on or before July 11, 1933, and such petroleum has been acquired from any other shipper and/or producer and has been purchased or otherwise acquired from many sources and areas, and has been so commingled that it is impossible for the shipper to furnish the facts required on "OES-1" with respect to the designation of the properties producing the petroleum shipment, the recital of such facts may be omitted and a statement giving the following facts submitted in lieu thereof; the date and place of each transaction involving the acquisition of petroleum so commingled subsequent to July 16, 1933; the names and business addresses of the producers and/or of shippers from whom such petroleum was acquired; the amount of petroleum involved in each transaction, and a statement setting forth the reasons why the information requested in "OES-1" cannot be furnished.

Every refinery, reclamation plant, treating plant, gasoline plant, and every shipper of petroleum products in the East Texas area shall file at the office of the Division of Investigations of the Department of the Interior in Dallas, Tex., not later than the 15th day of each and every calendar month beginning with the period ending August 15, 1934, for the preceding calendar month, a sworn statement on the form entitled "OES-3" fully and accurately giving the data required.

Every pipe line in the East Texas area and every person storing petroleum or petroleum products in said area shall file at the office of the Division of Investigations in Dallas, Tex., not later than the 15th day of each and every calendar month beginning with the period ending August 15, 1934, for the preceding calendar month, a sworn statement on the form entitled "OES-4," fully and accurately giving the data required.

Every producer of petroleum in the East Texas area shall file at the office of the Division of Investigations, Dallas, Tex., not later than the 15th day of each and every calendar month beginning with the period ending August 15, 1934, for the preceding calendar month, a sworn statement on the form entitled "OES-5," fully and accurately giving the data required.

Shipping Regulations

The master, owner, or a duly authorized agent of the owner of a vessel, copy of whose authorization has been filed with the Division of Investigations in Washington, D. C., upon accepting petroleum or petroleum products at any port of the States of Texas, Louisiana and California, for carriage in whole or in part to any port of the United States, shall send by registered mail to the Division of Investigations in Washington, D. C., a report in triplicate on the form designated O C R-1, fully and accurately giving the data required.

Every such master, owner or agent of such vessel, shall thereafter upon discharging petroleum or petroleum products of any part thereof at any port of the United States send by registered mail to the Division of Investigations in Washington, D. C., a report on the form designated O C R-2, fully and accurately giving the data required.

Every such report upon the loading or discharging of cargo shall be mailed at the port office of the respective port of loading or discharge within 48 hours after such loading (in whole or in part) has been completed.

Every producer of petroleum in the Oklahoma City area shall file at the of-

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ended July 14 totaled 344,187,000 bbls., an increase of 95,000 bbls. over the total of 344,092,000 bbls. on hand at the end of the preceding week, Harold L. Ickes, Secretary of the Interior and Administrator of the code of fair competition for the petroleum industry, announced today. This increase, which followed a gain of 385,000 bbls. during the previous week, comprised an increase of 91,000 bbls. in stocks of domestic crude and an increase of 4,000 bbls. in foreign crude stocks.

Current reports of the industry for the week ended July 14, in comparison with those for the previous week, indicate that daily average crude production increased approximately 100,000 bbls., that imports remained virtually stationary, and that crude runs to stills increased about 65,000 bbls. daily. The approximate daily average balance of crude oil for the week ended July 14 was as follows (bbls.): Production, 2,670,000; imports 86,000, equals runs to stills, 2,565,000; increase in stocks, 14,000; exports, losses, etc., 177,000. Total daily average demand for crude oil for the week ended July 14 therefore averaged 2,742,000 bbls. daily.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

Grade of crude oil—	Stocks held by reporting companies— July 7, 1934	July 14, 1934	Change from July 7, '34
Pennsylvania Grade	4,632,000	4,619,000	—13,000
Other Appalachian, including Ky.	1,247,000	1,255,000	+ 8,000
Lima-N. E. Indiana-Michigan	1,527,000	1,478,000	—59,000
Illinois-S. W. Indiana	11,280,000	11,331,000	+51,000
N. Louisiana and Arkansas	10,543,000	10,692,000	—151,000
West Texas and S. E. New Mexico	29,353,000	29,576,000	+223,000
East Texas	41,184,000	40,866,000	—318,000
Other Mid-Continent	161,722,000	161,367,000	—355,000
Gulf Coast	16,887,000	17,628,000	+741,000
Rocky Mountain	27,887,000	27,864,000	—23,000
California	33,841,000	33,828,000	—13,000
Total domestic crude	340,413,000	340,504,000	+91,000
Foreign crude	3,679,000	3,683,000	+ 4,000
Total crude	344,092,000	344,187,000	+95,000

fice of the Division of Investigations of the Department of the Interior in Oklahoma City, not later than the 5th day of each and every calendar month beginning with the period ending August 5, 1934, for the preceding month, a sworn statement on the form entitled "Monthly Producer's Report," fully and accurately giving the data required.

Every producer of petroleum and every skimming trap operator in the area above described shall file at the office of the Division of Investigations in Oklahoma City, not later than the 5th day of each and every calendar month beginning with the period ending August 5, 1934, for the preceding calendar month, a sworn statement on the form entitled "Producer's or Skimming Trap Operator's Monthly Report," fully and accurately giving the data required.

Every purchaser or shipper of petroleum in the area above defined shall file at the office of the Division of Investigations in Oklahoma City, not later than the 5th day of each and every calendar month, beginning with the period ending August 5, 1934, for the preceding calendar month, a sworn statement on the form entitled "Purchaser's Monthly Report," fully and accurately giving the data required.

Every purchaser or taker of oil from tank bottoms, pits, skimming traps, pipe line leaks, or other waste oil, in the area above defined, shall file at the office of the Division of Investigations in Oklahoma City, not later than the 5th day of each and every calendar month beginning with the period ending August 5, 1934, for the preceding calendar month, a sworn statement on the form entitled "Monthly Report for Purchaser or Taker of Oil from Tank Bottoms, Pits, Skimming Traps, Pipe Line Leaks, or other Waste Oil," fully and accurately giving the data required.

Every pipe line area in the Oklahoma City area shall file at the office of the Division of Investigations in Oklahoma City, not later than the 5th day of each and every calendar month, beginning with the period ending August 5, 1934, for the preceding calendar month, sworn statements on Forms 12 (a) and 12 (b), fully and accurately giving the data required, and that such pipe line companies on and after 10 days from the date of the approval of this order, shall further file at the office of the Division of Investigations in Oklahoma City, Okla., daily reports on said Forms 12 (a) and 12 (b).

Administrator Ickes approved forms entitled "Affidavit 1," "E-N-2," "Affidavit 3" and "Affidavit 4," for use in the Oklahoma City area, provided, however, that if the petroleum offered for shipment as a Class "A" shipment was produced on or before July 11, 1933, and such petroleum has been acquired from any other shipper and/or producer and has been purchased or otherwise acquired from many sources and areas, and has been so commingled that it is impossible for the shipper to furnish the facts required on "Affidavit 1" with respect to the designation of the properties producing the petroleum shipment, the recital of such facts may be omitted and a statement giving the following facts submitted in lieu thereof: the date and place of each transaction involving the acquisition of petroleum so commingled subsequent to July 16, 1933; the names and business addresses of the producers and/or of shippers from whom such petroleum was acquired; the amount of petroleum involved in each transaction, and a statement setting forth the reasons why the information requested in "Affidavit 1" cannot be furnished.

Ample Authority

Confidence that the flow of hot oil can be adequately stopped by these regulations is felt by members of the Petroleum Administrative Board, especially when these are used in conjunction with the recently enacted tax of one-tenth of a cent a barrel on all crude oil produced. It is felt that through the application of the criminal code provision making it a felony to submit a false statement to any government agency and the production tax, greater strength can be shown by the administration, notwithstanding the various adverse court decisions which have tied the hands of the enforcement agents in the past. Under these two measures the federal agents will have the vested authority to go into the various areas in which the law is being violated and adequately enforce the law without danger of being stopped by injunctions and various other court proceedings. Regulations for the enforcement of the production tax are expected to be announced by the treasury department in the very near future.

Curbing Gasoline Price Wars

Another step in the general plan of stabilization of the industry has been announced by Administrator Ickes. This step is intended to assist in the stabilization of the marketing division. Authority has been given to the Planning and Coordination Committee to establish local committees as needed to deal with local gasoline price wars and to negotiate settlements in the areas as the price wars arise. The oil companies have been averse to doing this on their own initiative as there was some question as to whether such actions would have been a violation of the antitrust laws if done voluntarily. However, under the instructions of the administrator it is expected that these committees will be appointed as the need arises and that some effective work in eradicating price wars will be performed.

The petroleum administration called attention to the disastrous effects of retail price wars in making public this announcement, and said "they not only cause an excessive waste of oil and gasoline reserves, but they result in employes being worked long hours and their pay reduced to gain back some of the money lost by price cutting. In addition, large surpluses are piled up in the wholesale market and distributors are forced to sell for less than cost in efforts to unload heavy supplies at any price at which a buyer can be found.

The board further stated that price wars are particularly disastrous to independents, both the wholesaler and the retailer, as they do not have the financial strength to stand the heavy losses suffered and are liable to be bankrupted, thus opening the way to monopoly because the larger companies have the financial reserves to enable them to take their losses and survive.

This plan for the settlement of local price wars, which has been under consideration by the oil administration for some time, was also recommended by the Darrow board of review. The plan stipulates that the settlements may be reviewed by the petroleum administrator, and that they shall not in any way encourage the creation or promotion of a monopoly.

C. E. Arnott, member of the Planning and Coordination Committee and chairman of the marketing sub-committee, is authorized to designate the committees for each locality when and as price wars develop. The committees when appointed shall have the authority to confer, negotiate, hold public hearings with a view to ascertaining the elements of conflict that are present and in a co-operative manner to stabilize the price level to conform to that normally prevailing in contiguous areas where marketing conditions are similar.

Crude Allowables

A decrease of 81,000 bbls. daily in the national allowable production of crude oil was authorized today by Secretary of the Interior Harold L. Ickes, the oil administrator, in fixing the August total of 2,449,300 bls. daily, as compared with 2,530,000 in July. The allowable becomes effective at 7 a. m. August 1 (Standard time at the place of production).

The decrease resulted primarily from the stipulation by the oil administration in setting the August gasoline allocation at 36,270,000 bbls. that gasoline inventories should be reduced 4,270,000 bbls. in August. This action was necessary because the surplus in storage has been increasing recently, tending to hold back recovery. Crude oil production requirements are lessened by this necessity for reducing stocks to balance the supply and consumer demand.

Virtually all the producing states shared in the decrease, with Texas' production lowered more than the others. Texas was reduced 40,800 bbls. daily to 1,001,300. Other reductions: Arkansas, 2,600 to 30,400; California, 19,200 to 490,200; Illinois, 100 to 12,500; Kansas, 3,300 to 131,200; Kentucky, 1,400 to 11,700; Louisiana, 1,700 to 87,200; New

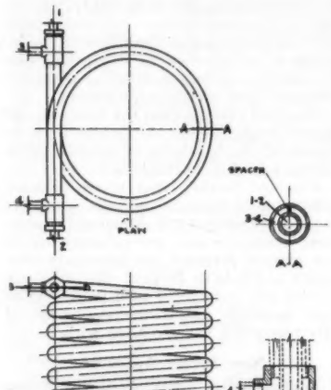
(Continued on Page 59)

Double Coil Exchanger May Be Used to Advantage in High Pressure Work

By DANIEL IRWIN

Where high pressures, low temperatures and small terminal temperature differences are involved, as with the liquefaction of propane and propylene and lighter of the hydrocarbons, the double coil countercurrent heat exchanger illustrated, is adaptable. Another use, involving high pressure, would be in carbon dioxide refrigeration work.

It consists, essentially of two concentric tubes coiled to any practical diameter, and mounted in a steel shell or in a tank. The steel shell would be used where insulation is required; the tank mounting would be desirable where a heat exchange is made to liquid about the outer tube of the coil. A structural steel base, spacing blocks and holding rods would complete the equipment. In



the coil construction, the tubes are set, one inside the other, the inner tube being spaced concentrically by means of lugs that are welded to the inner tube in a spiral line about the tube. The tubes are then bent by machine to the diameter required, being formed in the pipe bender from the top down. The terminal connections may be as shown, or they may be welded solid, depending on the amount of expansion expected.

The coil shown has limitations as to capacity and service, for a single unit, but multiple units may be used in parallel or in series or as a combination of flow.

As stated, the countercurrent coil has its best use in high pressure work, at low temperatures, and where very close terminal temperatures between cooling and heating fluids are demanded. For the ordinary refinery processes, with the fouling of heat exchange equipment by carbon and gums, this type of equipment would have to be written off within an expected useful period of efficient operation. Cleaning would be impractical. However, the double coil should have a low first cost.

Use in Refining

One use in general refinery work would be in water cooling and condensing of products of distillation with the elimination of objectionable vapor forming from the water in open tanks containing the pipe coils. The oil product is passed through the inner coil, water flows through the outer coil, and is itself cooled by water surrounding the outer coil in the open tank. The water from the coil is discharged into the bottom of the tank, and overflows at the top of the tank.

By reason of the true countercurrent flow, and with positive areas of both inner and outer elements of the coil, accurate determination can be made of the expected results and in addition, high velocities may be used and this will give a scouring effect that should maintain the heat transfer rate constant over a long period of operation.

In the design of this type and other heat transfer equipment, there are sufficient data available for very accurate determination of performance. One component of heat transfer rate is temperature difference. This is empirically assumed as the logarithmic means or average between exchanging fluids, indicated as "MTD" or "ΔT".

A problem will illustrate the determination of the mean temperature difference:

Fluid is to be cooled from 200 to 50° F.
Fluid is to be heated from 40 to 180° F.

this is written:

$$\begin{array}{l} 200 \rightarrow 50 \\ 180 \leftarrow 40 \\ \hline 20 - 10 \end{array}$$

the respective terminal temperature differences, Δt_1 and Δt_2.

The formula is:

$$MTD = \frac{\Delta t_1 - \Delta t_2}{2.3 \log_{10} \frac{\Delta t_1}{\Delta t_2}} = \frac{20 - 10}{2.3 \log_{10} \frac{20}{10}} = 14.5°$$

Were the arithmetical mean temperature taken instead, this would be:

$$\frac{\Delta t_1 + \Delta t_2}{2} = \frac{20 + 10}{2} = 15°$$

this latter is always higher in value than the logarithmic mean, and the former basis of temperature difference should be used.

Other considerations in heat transfer are: Kinds of fluids (liquids or vapors), viscosities at various temperatures, velocities of flow and amount of surface in relation to the amount of fluids passing. These factors are considered in the reference literature given. The data are based on empirical equations that closely approach actual test information. From these data, the refiner should know through his technical force (chemists and engineers) the efficiency of all heat exchange equipment in service and to be installed. Operation economies can be obtained by the maximum recuperation of heat with the least expensive equipment.

REFERENCES

"Principles of Chemical Engineering," Walker, Lewis and McAdams; McGraw-Hill Book Co., 1927 (pages 171-174).

Cox; Transactions A.S.M.E., Pet-50-2 (page 13).

Morris and Whitman; Jour. Ind. and Eng. Chem. Vol. 20, No. 3, 1928 (page 234).

Edmister; The Oil and Gas Journal, July 5, 1934 (page 12).

Van Pool, Texas, Well Pumped by Pneumatic Lift Handling Large Volume of Fluid Daily

By L. G. E. BIGNELL
Petroleum Engineering Editor

Engineers and production men have long recognized the desirability of keeping strains and stresses in sucker rods used in pumpwater, oil or a combination of fluids as low as possible. Slow reversals of the direction of travel of the rods is one way to accomplish this result. Long strokes reduce the number of reversals and afford another means of reducing rod strains. A combination of both slow reversals and long strokes has been secured in the Sullivan pneumatic pumping cylinder, with the additional advantage of securing a cushioning effect on the down stroke due to the building up of some pressure in the lower part of the cylinder as the piston descends.

Equipment Installed

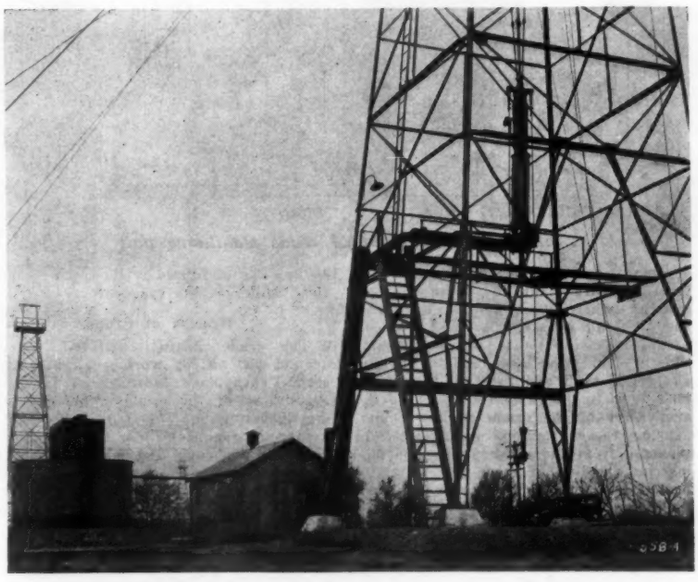
An interesting installation of this equipment has been made at the Pure Oil Co.'s 506, No. 5 Tunnel well in the Van Pool, Van Zandt County, Texas. This outfit is furnished with compressed air from a Cooper-Bessemer Type G-MG, two-cycle, single cylinder gas engine, with 11-inch diameter engine cylinder, 15-inch stroke, direct-connected to 6¼-inch compressor cylinder. Between the 3-inch high pressure line and the low pressure volume chamber a Fisher Wizard pilot controlled regulator is placed to maintain a pressure of 210 pounds in the high pressure line.

The pneumatic cylinder is working at from 19-20 strokes per minute with a 6-foot stroke. The inside diameter of the cylinder is 7⅝ inches with a 1¾-inch diameter piston rod, giving a net area inside the cylinder of 40.3 square inches. The outfit is handling from 900 to 1,100 bbls. of fluid per day of which from 90 to 95 per cent is salt water with a specific gravity of 1.12. The well is about 2,950 feet deep and the pump used is a 2½-inch by 15-foot Axelson liner barrel type with a loose fitting grooved 2¼-inch diameter plunger. The pump is set about 100 feet from the bottom of the well. A gas anchor is provided, and three-quarter inch rods are inside of a string of 2½-inch tubing.

The air compressor is handling air that is recycled in the system between compressor and pneumatic cylinder. The air is compressed from atmospheric intake pressure to 210 pounds discharge pressure, and with the compressor running at 300 r.p.m. about 640,000 feet per day can be handled. The unit is operating at about 148 r.p.m. to meet the present requirements and is handling about 270,000 feet daily.

The compressor cylinder itself is in a sense double acting, but each end of the cylinder performs a different function. The head end of this compressor cylinder is used only for circulating the compressed air or gas in the piping system and is generally called the "main cylinder." The intake to this cylinder is from the low pressure pipe line and at the present instant runs around 75 pounds per square inch. The discharge from this main cylinder is into the high pressure line at a pressure of around 210 pounds per square inch. There is no loading or unloading device on this cylinder. Any variation in the amount of air or gas circulated by this main cylinder is accomplished by speeding up or slowing down the engine driving the unit.

The air leaves the main cylinder of the compressor and passes to a heater that is made of 40 feet of 12-inch pipe through which the 8⅝-inch exhaust pipe from the engine is passed and welded.



General view of installation of pneumatic pumping unit in Van field, Van Zandt County, Texas

The hot gasses from the engine cylinder pass through this 40 feet of heater leaving the engine at about 700° F. and exhausting to the atmosphere at about 125° F.

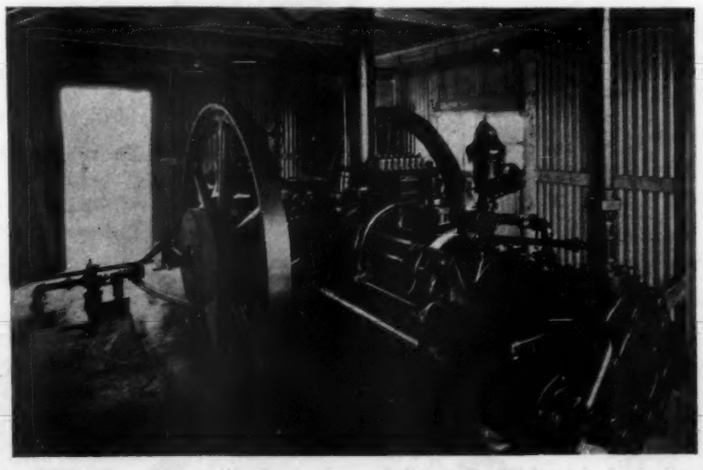
Due to inevitable leaks in the pipe joints and valve fittings, there is a continual, though relatively small, loss of air or gas from the system so that an additional quantity of air or gas must be occasionally introduced into the closed system in order to maintain the proper quantities and keep the pressure up.

The crank end of the compressor cylinder is used for this purpose. It is generally called the "makeup cylinder." The intake to this cylinder is from atmosphere and the discharge is into the low pressure side of the piping system. This is not a separate discharge into the pipe line, but is a discharge through cored passages in the cylinder block itself.

The amount of additional air or "makeup" required in the closed system is indicated by the pressure in the low pressure side of the line. Seventy-five pounds per square inch is the predetermined required pressure for a proper operation of the unit and if this pressure begins to drop during operation, it is an indication that additional quantity of air is required in the closed system.

A total closure type of unloader is installed on the intake of the makeup cylinder. Under normal operating conditions, this unloader completely closes the intake to the makeup cylinder so that no air is compressed by it and no work is done. However, as the low pressure line drops off in pressure, a pilot line to the unloader operates the unloader to open up and let the makeup cylinder compress air from atmosphere to about 75 pounds per square inch and discharges into the low pressure side of the system. This furnishes the required makeup air. As this makeup air gradually fills up the total quantity of air in the closed system, the low pressure side of the system will experience a rise in pressure and when this has reached a predetermined point of say, 75 or 76 pounds per square inch, the total closure unloader on the makeup cylinder will again close.

The capacity of this makeup cylinder is made amply large to take care of even exceptional conditions of leakage. Under ordinary operation, however, the makeup cylinder is actually pumping air only a fraction of the time of operation.



Interior of compressor house

Air Heated and Expanded

In this system, it is possible to set the compressor at the base of the derrick as shown on the accompanying pictures of the installation at Van Field, and by utilizing the heating value of this exhaust engine gas it is possible to expand the air so that it will occupy about 50 per cent more space upon leaving the exhaust heater and entering the jacketed pipes and accumulator that lead directly to the ports on the lower part of the pneumatic cylinder. This arrangement has two advantages, the saving of additional compressor capacity and utilizing the normally waste heat from the exhaust gases of the compressor.

The system employed to accomplish this saving is rather unique and advantage has been taken of lease setup. The air after leaving the pneumatic cylinder when the piston has moved to the lowest position is forced into the return pipe to be returned direct to the inlet port on the air compression end of the compressor.

This 210-pound compressed air is delivered into the cool end of the heater above referred to and as it travels through the annular space between the outside of the 8⅝-inch and the inside of the 12-inch pipe to the outlet at the opposite end it is expanded due to the absorption of heat and then discharged into the jacketed accumulator that is shown in the left-hand corner of the derrick back of the stairs.

The exhaust heater is provided with thermometer wells and is swung upon pipe supports and provided with Black, Sivalls & Bryson blowout diaphragm designed to rupture if a pressure in excess of 300 pounds per square inch and a temperature of over 400° F. is reached inside of the heater.

A 12-inch Dresser coupling furnished with high temperature packing is used on the outer end of the heater to provide for take up due to expansion. Between the heater and the outlet on the exhaust from the engine a special 30-inch diameter expansion diaphragm is placed as a further precaution against trouble from expansion due to heat.

The outside of the heater is coated with Johns-Manville "Banroc" packing. Between the heater and the pneumatic head the high pressure line and the volume tank are insulated with a 3-inch coating of 85 per cent magnesium pipe covering made by Johns-Manville Co. The upright high pressure volume

(Continued on Page 59)

Combination Natural Gasoline Plant and Crude Stabilizer Recently Built by Texas Company

When the Texas Co. completed its initial well west of Crowell in Foard County, Texas, it located a pool of high gravity oil accompanied with a considerable volume of gas. A situation was found to exist by a combination of circumstances that made it desirable to handle the oil and gas with a somewhat different system than that usually applied to other fields in the Mid-Continent area. The leases held by that company cover the known structure in that immediate locality, and any arrangements made between the production and gasoline departments of the Texas Co. can easily be carried to a successful conclusion.

Two producing wells have already been drilled, with a third nearing the pay zone. The formation pressure in this field averages about 1,300 pounds and when the allowable amount of oil and gas is being produced, a pressure of 900 pounds is carried as back pressure on the tubing head controls. The oil itself has a gravity of 48 degrees A.P.I. and when run to open flow tanks at atmospheric pressure and temperature, considerable weathering was found to take place accompanied by a serious shrinkage in volume.

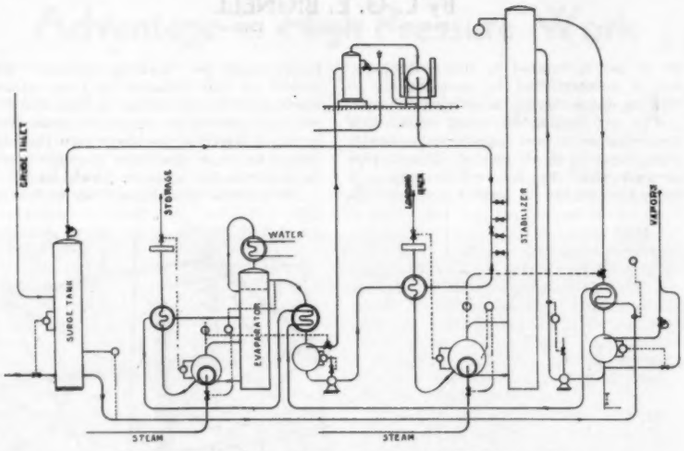
In order to overcome this difficulty and to recover the natural gasoline in the gas, the Texas Co. built a combination crude stabilizer and gasoline plant which was placed in operation about February 1, 1934. The essential features of the recovery plant do not differ materially from the accepted practice of vapor fractionation, but the manner in which the oil is handled after it is produced, condensing the reflux, the gasoline and preheating the crude for stabilizing is different from the usual plant of this character.

A location was selected that was considered a central one, based upon the size and contour of the structure, upon which to erect the oil and gas separators, the crude stabilizer and the gasoline recovery plant. As the wells are operated with a high back pressure, all the permissible oil and gas taken from them can be transported through small flow lines. These 2-inch flow lines lead directly from the well controls to this central location instead of being laid to individual separators placed near the wells as commonly practiced in other oil fields. This method of handling the oil and gas requires only one flow line per well, and eliminates the erection of several separators. With this set up, no gas gathering lines are necessary which eliminates another expense of production.

Prepared for Expansion

Only two separators are utilized for the wells now producing and these are sufficiently large enough to care for a number of additional completions. The oil and gas entering the first separator are reduced to 600 pounds pressure which releases most of the fixed gases, and the reduction from 900 to 600 pounds also reduces the temperature of the oil. The gas removed from the first separator is used for fuel or otherwise disposed of. The oil leaves this separator through a liquid level controller and immediately enters the second, reduced to a pressure of 350 pounds.

When the oil is released from the second separator, or surge tank as it is called on the lease, the pressure is dropped through a differential liquid level control valve from 350 pounds to about 30 pounds. Continual expansion of the high gravity crude through the various reducing valves brings the temperature down to an average of 42° F. The ability to reduce the temperature to this low point is one thing that makes the plant, both the crude stabilizer and the recovery plant, easy to operate. The oil is led from the surge tank to the vapor fractionator where it exchanges heat with the overhead vapors from the main column, condensing them and at the same time absorbing the heat from the vapors. From this shell and tube condenser, the oil travels to the vapor condenser on the evaporator of the crude stabilizer, condensing those fractions most easily to separate from the other gases. Continuing in the line of flow, the partially heated crude is utilized in a primary shell and tube exchanger to assist in cooling the stabilized crude coming from the reboiler at the evaporator.



Simplified flow chart of crude stabilizing unit

Heating of Crude

The crude, heated from 42° F. to around 150° F. by working through the several exchangers, is introduced into the evaporator of the crude stabilizer unit for light topping. This unit is a Southwestern, reconditioned, brought from the surplus stocks of the gasoline department. It is equipped with a shell and tube steam heated reboiler, overhead reflux condenser, shell and tube vapor condenser and accumulator tank. The reboiler is carried at a temperature of 225° F. so that the high gravity oil may be reduced to not lower than 42 degrees A.P.I. The vapor condenser is the shell and tube through which the fresh oil passes, countercurrent to the flow of vapors performing a dual purpose; that of furnishing a cooling medium for condensing purposes and heating the oil before it is processed for topping.

Uncondensed gasoline vapors are removed from the accumulator tank by a Bessemer Type 8 gas engine driven compressor which picks up the load and compresses the gas to the pressure carried on the vapor fractionator. The compressed gas is introduced into the 6-inch line uncooled to be mixed with the gas coming from the secondary separator in the crude system. This mixture enters the tower through the top entry port, but when conditions demand, they may be distributed to the column through all four points. This operating procedure is determined by the temperature of the column, the reboiler, the overhead and the grade of gasoline to be manufactured.

When the uncondensed vapors are taken from the crude stabilizer accumulator tank they are passed through a scrubber set on the suction line near the engine room. A liquid level indicating float is set on the side of this scrubber which opens an alarm whistle valve to call the operator's attention if liquid carries over and begins to fill the scrubber. A residue line carrying gas leads to this alarm and the operation is entirely automatic.

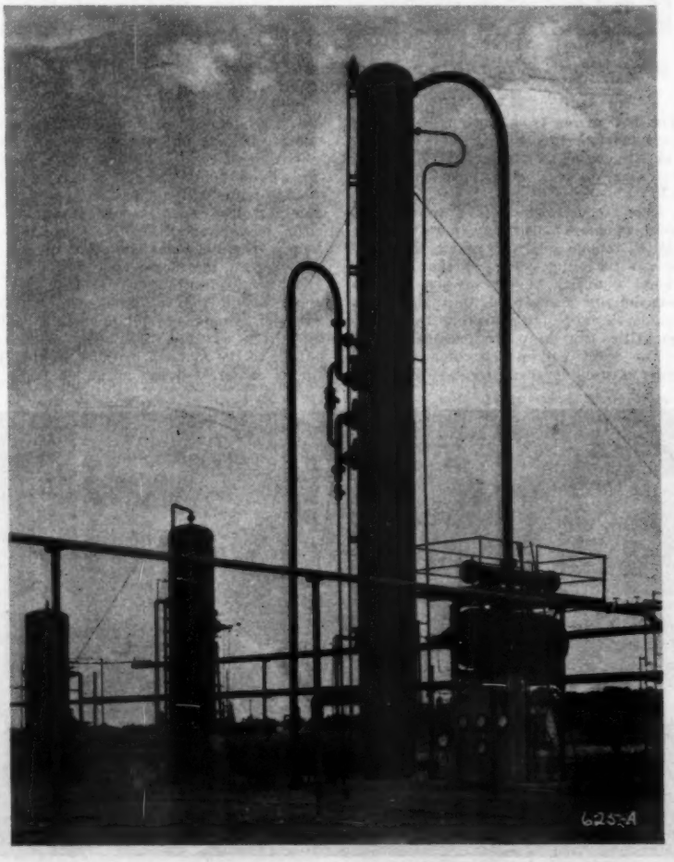
A liquid level controller on the side of the crude stabilizer accumulator tank operates a steam regulating valve on a pump which permits the liquid in the accumulator tank to be pumped as condensed to the gas fractionating column. It is passed through a shell and tube exchanger to heat the charge and cool the finished gasoline leaving the reboiler. This liquid enters the column mixed with the vapors and is fractionated through the same process.

Any grade of natural may be manufactured in this column depending upon market requirements. Vapors coming through the overhead 8-inch line are partially condensed by passing them through the shell and tube condenser where the fresh oil from the low pressure separator, or surge tank is first utilized as a cooling medium. The condenser is placed directly above the reflux accumulator near the base of the column. This liquid is pumped as required to the top of the column to control the outlet temperature. Surplus liquid is expanded into the line which carried the more or less fixed vapors released from the upper side of the reflux accumulator.

Finished gasoline, at present an 18-pound product, is removed from the reboiler through a float controlled valve and passes directly to a shell and tube exchanger where the fresh crude makes its second contact. Final cooling of the product is accomplished in a bank of atmospheric sections placed in a louvre tower where water is sprayed upon them. It is then given a light treatment of hypochlorite solution and shipped to the loading rack for tank car loading.

The stabilized crude taken from the reboiler at the stabilizer unit passes through a shell and tube exchanger where the fresh crude performs its third and last duty in cooling. From this exchanger the 42 gravity product is led through a bank of atmospheric sections for final cooling, where the temperature is reduced to 95-100° F. The crude is led from the louvre tower to the lease run tank battery, situated on the side of a hill so that the

(Continued on Page 145)



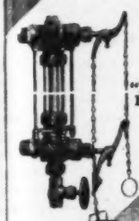
General view of The Texas Co.'s crude stabilizing unit near Cromwell in Foard County, Texas

PENBERTHY LIQUID LEVEL GAGES

MEET ALL OIL INDUSTRY NEEDS

Automatic Injector

Ejector, Syphon or Jet Pump


"Navy Type" Liquid Level Gage

"Safeguard" Automatic Liquid Level Gage

"All-Iron" Automatic Liquid Level Gage

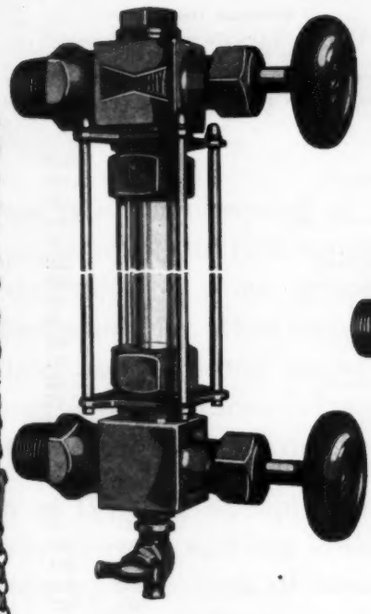
Gas Engine Lubricator

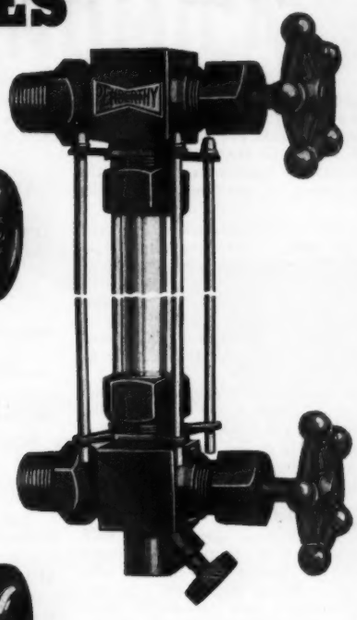
Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup

"NAVY TYPE"
350 LBS. WORKING PRESSURE
500° F.


"SAFEGUARD"
300 LBS. WORKING PRESSURE
500° F.


"ALL IRON"
500 LBS. WORKING PRESSURE
750° F.

PENBERTHY PRODUCTS

THE three gages shown here are very popular in the oil industry because of their consistently dependable operation. All of them are ruggedly built of the highest grade materials by an organization that has had 48 years experience in the manufacture of quality products. The "Navy Type" is made from Navy Bronze Composition M, the "Safeguard" from high grade steam metal bronze and the "All Iron" from a modern electric iron alloy.

All these gages have automatic shut-off. Both upper and lower body have ball check valves that seat immediately and positively to prevent the loss of liquid when glass is broken. The hand operated stop valves may then be closed with safety and a new glass inserted.

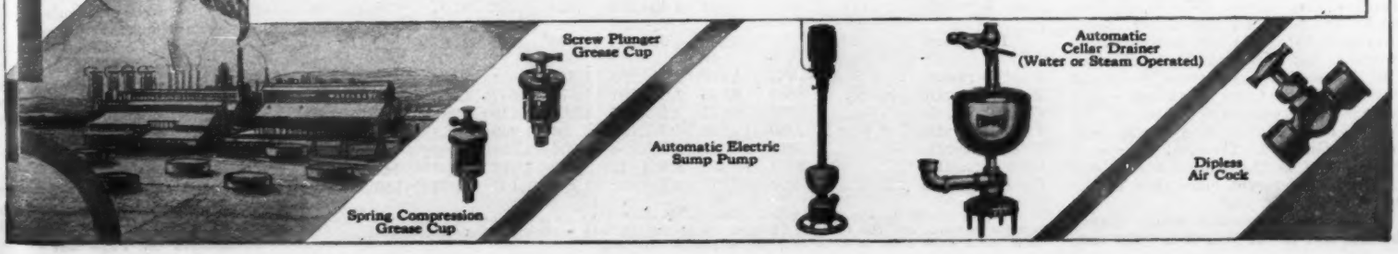
Each gage is carefully tested and rigidly inspected at the factory. For detailed descriptions write for a copy of the new catalog.

Penberthy Liquid Level Gages are carried in stock by supply houses everywhere.

PENBERTHY INJECTOR COMPANY

DETROIT, MICHIGAN
WINDSOR, ONTARIO

MANUFACTURERS OF QUALITY PRODUCTS SINCE 1886


Screw Plunger Grease Cup
Spring Compression Grease Cup
Automatic Electric Sump Pump
Automatic Cellar Drainer (Water or Steam Operated)
Dipless Air Cock

Many Pools Opened in First Half of Year, Which Was Marked by Great Increase in Drilling

By JAMES McINTYRE

Regardless of the fact that the average price of crude oil in the first half of 1934 was about 25 cents per barrel below the average for the 75 years of the oil business, it was the busiest first six months in four years in the matter of wells drilled.

A total of 8,298 wells were completed as against 4,972 in the first half of last year; 6,746 in the same period in 1932, and 6,373 in the first half of 1931. In the first half of 1930, before the general depression made itself seriously felt, there were 11,360 wells completed in the United States in the January to June period.

Of the total of the January to June completions this year 5,820 were oil wells, which number was 2,863 higher than the crop of oil wells in the first half of last year; 1,947 were dry holes, and 531 were gas wells.

No Big New Fields

No large pools were opened in the half year period—that is—no pool was opened that up to the close of June had the earmarks of a potential large field. On the other hand many new productive spots were openel in Oklahoma, Kansas, Texas and Michigan and extensions to pools were noted in all these and in other states.

The crude oil market in the first half of last year was so low that all the spirit was crushed out of many operators and it was reflected in the small volume of new work done. Persistent running of hot oil out of East Texas and Oklahoma City in 1932 and early in '33 brought prices down to levels where every operator, outside of the fields of large flush production and low development costs, was losing money. This situation was relieved in September when Harold L. Ickes, secretary of the interior and federal petroleum administrator, put an arbitrary price on crude oil and the crude oil purchasers responded with quotations which, while not high, were so much higher than they had been that they seemed providential to oil producers. Better prices and a keen local demand for crude in many states spurred operators to drill, and the result was a general increase in field work.

At first oil men were skeptical of the higher prices. They were uncertain as to the stability of the pegged quotations. but as time passed and the market remained firm confidence increased and by the beginning of this year it was felt that there would be no cut prices unless some great field was opened up that might disturb the situation.

Throughout the first half, from the Allegany Field in New York to the California fields, the drill was busy. Compared with the first half of 1932 the increase in completed wells this year was as follows: In the Pennsylvania Grade fields, 642; Central Ohio, 137; Michigan, 126; Lima, 17; Indiana, 19; Kansas, 142; Oklahoma, 378; North Central Texas, 615; West Texas, 79; East Central and East Texas, 777; Texas Panhandle, 78; Southwest Texas, 109; North Louisiana, 40; Gulf Coast Louisiana, 48; Montana, 42; Wyoming, 11; California, 116. Those figures represent the largest increases; Gulf Coast Texas showed a decline of 48 completed wells, the big Conroe Field having been pretty well drilled up in 1933. The total increase in wells drilled in the United States was 3,326 or 67 per cent more than in the first half of last year.

If the market remains setady during the last half of the year it is quite safe to predict that the increase in operations for the whole year over last year will be large.

13 Oklahoma Discoveries

Thirteen oil and gas pools were opened in Oklahoma in the first half of the year. None of them seems destined to be of large proportions either in acreage or in ultimate production. It was the most active first-six-month period since 1930. Compared with the first half of 1922 it showed an increase from 455 to 900 completions or an increase of nearly 100 per cent. The half year in Oklahoma developed the deepest oil producing well in the world, a wildcat test in Caddo County which produced oil from sand at 9,900-10,000 feet. It was believed to be in a Pennsylvapian formation and at the close of the period was drilling below 11,000 feet in an attempt to find the Wilcox series.

SUMMARY OF COMPLETED WORK IN ALL THE FIELDS OF THE UNITED STATES IN FIRST SIX MONTHS OF 1934 AND IN SAME PERIOD OF 1933

	First 6 mos.	Comp.	Initial prod.	Dry holes	Gas wells	Oil wells	Av. init. prod. (bbls.)
Eastern	1934	1,100	5,675	46	104	950	5.97
	1933	458	1,429	62	127	269	5.31
Central Ohio	1934	264	2,098	63	124	77	27.25
	1933	127	544	31	73	23	23.65
Michigan	1934	222	106,471	47	21	154	691.37
	1933	102	22,350	27	3	72	310.43
Lima	1934	57	633	24	9	24	26.36
	1933	40	768	6	14	20	38.40
Indiana	1934	92	949	43	18	31	30.61
	1933	73	368	26	25	22	16.73
Kentucky	1934	75	1,837	32	2	41	44.80
	1933	77	2,677	38	3	36	74.36
Alabama	1934	2	0	2	0	0	.....
	1933	1	0	1	0	0	.....
Mississippi	1934	18	0	15	3	0	.....
	1933	19	150	12	6	1	150.00
Illinois	1934	9	27	5	1	3	9.00
	1933	8	15	5	1	2	7.50
Kansas	1934	382	137,035	102	9	271	505.66
	1933	240	77,909	83	9	148	526.41
Oklahoma	1934	900	353,240	231	58	611	578.14
	1933	522	133,342	192	30	300	444.47
North Central Texas	1934	1,080	91,379	415	23	642	142.33
	1933	465	10,381	299	19	147	70.62
West Texas	1934	206	793.654	33	3	170	4,668.55
	1933	127	24,083	29	0	98	245.74
E. Central and E. Texas.	1934	1,690	100,087	58	6	1,626	61.55
	1933	913	53,999	83	1	829	*65.13
East Texas gas area	1934	10	15	7	2	1	15.00
	1933	12	0	12	0	0	.....
Texas Panhandle	1934	165	45,093	10	23	132	341.61
	1933	87	15,406	9	14	64	240.72
Gulf Coast, Texas	1934	637	297,970	260	29	348	856.24
	1933	685	805,663	147	7	531	1,517.26
Southwest Texas	1934	607	97,055	279	46	282	344.16
	1933	498	67,930	300	28	170	399.59
North Louisiana	1934	189	10,874	81	27	81	134.25
	1933	149	9,484	93	12	44	215.55
Gulf Coast, Louisiana	1934	150	71,820	54	0	96	748.12
	1933	102	36,075	58	1	43	838.95
Arkansas	1934	30	1,695	19	0	11	154.09
	1933	28	395	24	0	4	98.75
Montana	1934	60	3,912	13	4	43	90.98
	1933	18	1,256	3	2	13	96.61
Wyoming	1934	27	1,555	8	5	14	111.07
	1933	16	531	8	2	6	88.37
Colorado	1934	10	9,660	5	2	3	3,220.00
	1933	16	0	14	2	0	.....
New Mexico	1934	44	43,469	7	9	28	1,552.46
	1933	38	121,465	8	0	30	4,048.83
Utah	1934	3	0	3	0	0	.....
	1933	4	2	2	0	2	1.00
California	1934	263	254,210	80	0	183	1,389.00
	1933	147	77,978	62	2	83	939.50
First 6 months	1934	8,292	2,430,413	1,942	528	5,822	417.45
First 6 months	1933	4,972	1,464,200	1,634	381	2,957	495.16
Difference		3,320	966,213	308	147	2,865	77.71
First 6 months	1933	4,972	1,464,200	1,634	381	2,957	495.16
First 6 months	1932	6,746	1,031,691	1,574	547	4,625	223.07
First 6 months	1931	6,373	4,131,038	2,266	1,119	2,988	1,382.54
First 6 months	1930	11,360	4,057,729	3,393	1,249	6,718	604.01
First 6 months	1929	11,941	3,265,396	3,706	1,233	7,002	466.35
First 6 months	1928	10,455	3,113,947	3,428	1,273	5,754	541.18
First 6 months	1927	12,738	2,340,422	3,384	1,101	8,253	283.58

*Initial production in East Texas consists of short-time gauges, ranging from a few minutes upward, and the resultant figures do not in any way represent what the completed wells could have done on a 24-hour initial production test.

Kansas' Good Record

Four sizeable pools were opened in Kansas in the first half of the year, but six other wildcats showed more or less production upon completion. The Graber Pool and the Hilger Pool in McPherson, the Genesee Pool in Rice County, and the Russell Pool in Russell County were definite new pools. A new productive zone was opened in the Burrton Pool in Reno County, and the Schulte Pool was opened in Sedgwick County, starting off encouragingly but later developing a discouraging condition. The report shows a large volume of wildcat drilling and 37 dry or salt water holes completed, averaging 3,721 feet in depth per well.

Gulf Coast Results

The interest in the Gulf Coast Field switched this year from the Texas to the south Luoisiana portion of that big territory. There were fewer completions on the Texas Gulf Coast but an increase in Louisiana compared with last year. Seven new pools were opened, Bosco, Roanoke, Lake Hermitage in Louisiana, and Splendora, Van Vleck. Vanderbilt and a pool in Refugio yet unnamed comprise the Texas crop. Three are deep-seated salt domes, Bosco, Roanoke and Van Vleck.

Southwest Texas

In Southwest Texas the most important discoveries in a busy half year of exploratory work were in the Angelita area and Sinton in San Patricio County; Caesar area in Bee County; west of the Tuleta Field in Bee County; Jeffries-Lambeth area in Starr County; a deep discovery at Bruni, in Webb County; and several deep and shallow sands in pools where previously they were not known to exist.

New Pools in Eastern Texas

In the East Central Texas area the Cayuga Field in northeastern Anderson County was a definite find. A new producing area in Cherokee County made the third Woodbine Pool in that county. This year's discovery was made six miles south of Rusk, the county seat, on the New Birmingham Development Co.'s lands. Gas producing areas were opened in Leon and Freestone Counties. In the East Texas fields the completions averaged about 100 a week in the liveliest period, piling up the total number of oil wells in that field to 13,694.

Busy in Panhandle

In the Texas Panhandle, Gray and Wheeler Counties were particularly active and new pools were opened in Wheeler County and extensions to older pools were made. In the West Texas division four wildcats opened new producing spots in Ector, Andrews and Crane Counties and extensions to older pools were noted in several counties.

Rocky Mountain States

In the Rocky Mountain area a deeper-seated gas zone was opened in Lea County; the North Lea Pool was discovered.

(Continued on Page 58)

"Here's Why OUR 1500 H.P. UNIT IS MORE ECONOMICAL"

● Have you a compressor requirement of 1500 H. P.? You can *save* with this twin-tandem unit. It occupies approximately the same space as a standard 1000 H. P. Cooper-Bessemer unit. That means a lower cost per horsepower for building, concrete and crane. Also the weight per horsepower is less—saving you money in freight, unloading, and erecting. Type-26, in fact, can be erected as quickly as Type-22.

Type-26 follows the same design as Type-22 except that all parts are larger and stronger. Consequently there is nothing in the design that has not been thoroughly field tested by thousands of horsepower which have been pumping the nation's gas, in some cases for as long as a quarter of a century.

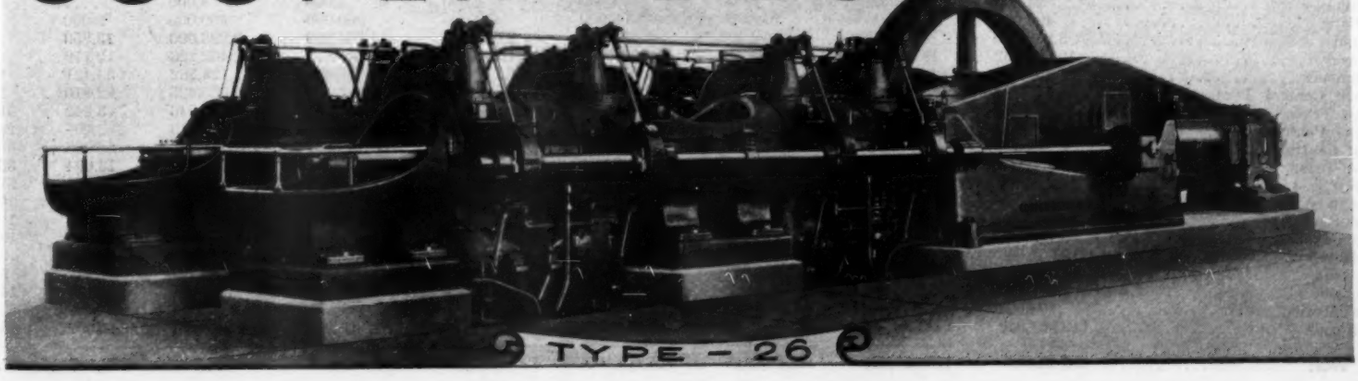
Do not confuse this economical 1500 H. P. unit with the longer stroke, slower speed, heavier and more expensive engine-compressors of long ago. Let us send you its thoroughly modern specifications.

THE COOPER-BESSEMER CORPORATION

Mt. Vernon, Ohio — PLANTS — Grove City, Pennsylvania

201 East 1st Street, Tulsa, Oklahoma
1314 Magnolia Building, Dallas, Texas
25 West 43rd Street, New York City
640 E. 61st Street, Los Angeles, Calif.
505 Esperson Building, Houston, Texas

COOPER-BESSEMER



More Production and of Far Greater Value Is the Record of First Half of Year in United States

By JAMES McINTYRE

Under the spur of better prices, American oil producers brought to the surface in the first six months of 1934, 10,868,301 bbls. of crude in excess of their production in the first half of last year.

Compared with the first half of last year the price of oil this year is high. The writer some time ago had reason to make some comparisons using the prices of March 15 as against the prices which have prevailed this year. March 15 was not the period of lowest prices. The date was used because what we were trying to learn was the increase in the price from that date last year to the same date this year. The 1934 prices have not changed excepting for further increases in the Pennsylvania Grade Field, so the figures still are representative. Pennsylvania Grade producers are receiving from $1.05 to $1.10 per barrel more than in March last year. Lima operators, 60 cents more; Indiana, 64 cents; Michigan, 7 cents; Kansas, 56 cents; Oklahoma, 56 cents; North Central and East Central Texas, 51 cents; East Texas, 50 cents; Southwest Texas, 45 to 49 cents; West Texas, 45 cents; North Louisiana, 51 cents; Smackover, Ark., 45 cents; Gulf Coast, 50 to 51 cents; Salt Creek, Wyo.; 56 cents; other Rocky Mountain fields, 32 to 60 cents; California, 8 to 38 cents.

On a percentage basis, the increases in price from March 15, 1933, to June 30, 1934, were as follows: Bradford-Allegany, 75 per cent; Kane to Butler, 76 per cent; Southwest Pennsylvania, 89 per cent; Southeastern Ohio, 113 per cent; West Virginia, 85 per cent; Lima, Ohio, 86 per cent; Indiana, 82 per cent; Illinois, 64 per cent; Michigan, 7 per cent; Western Kentucky, 107 per cent; Eastern Kentucky, 151 per cent; Oklahoma, 127 per cent; Kansas, 127 per cent; North Central and East Central Texas, 116 per cent; East Texas, 100 per cent; West Texas, 143 per cent; Southwest Texas, 100 per cent; Gulf Coast, 105 per cent; North Louisiana and Arkansas, high grade fields, 116 per cent; Smackover, Ark., 225 per cent; Salt Creek, Wyo., 127 per cent; other Rocky Mountain fields an average of 108 per cent; California, 31 per cent.

Following the low prices of a year ago, which went lower in some fields than at any other time in the history of the oil business (to 10 cents per barrel for oil in East Texas; 25 cents per barrel for Kansas, Oklahoma, North Central Texas, North Louisiana and Arkansas crude of 36 gravity), a tightening of proration sent the prices up until late in September they were posted at figures which have since prevailed in most fields, any changes made having been further increases.

Production Ups and Downs

Production in the first half of the year in the United States was 445,914,349 bls., a gain of 10,868,301 bbls. The increases and decreases by producing divisions are given below:

Increases in Production

	Bbls.
New York	295,000
Pennsylvania	1,830,000
Ohio	19,000
West Virginia	281,000
Michigan	2,595,000
Tennessee	3,000
Indiana	100,000
Illinois	519,000
Kansas	3,204,652
Oklahoma	10,966,110
North Central Texas	3,045,392
Texas Panhandle	1,393,601
Gulf Coast, Texas	1,671,364
Gulf Coast, Louisiana	2,179,038
Arkansas	27,681
Wyoming	265,648
Montana	324,360
Colorado	45,916
New Mexico	1,465,255
California	2,051,921
Total	32,282,938

Decrease in Production

Kentucky	118,000
East Central Texas	1,844,076
East Texas	12,951,317
Southwest Texas	938,300
West Texas	5,133,839
North Louisiana	429,105
Total decrease	21,414,637
Net increase	10,868,301

It will be seen that the most persistent hot oil producing division, East Texas, fell off 12,951,317 bbls., or from 103,604,436 bbls. to 90,653,119 bbls.. and there were decreases in East Central Texas, Southwest Texas and West Texas. On the other hand, the Gulf Coastal Texas and West Texas and the Texas Panhandle showed increases, but taken as a whole the State of Texas produced 14,757,175 bbls. less than in the same period last year.

Oklahoma shows the largest increase, 10,996,110 bbls.

Old Fields Increase

The increases noted in so many of the old fields east of the Mississippi River were undoubtedly brought about by the higher price for oil this year, or to put it another way, the small production of last year east of the Mississippi River was occasioned by the fact that operators would not sell their oil at the prices prevailing, but resumed full time production after September when the present prices were first posted. The cost of lifting oil in those oil fields was considerably above the price current in the first half of last year.

Michigan had the greatest proportionate production increase in the United States, because of the development of the Midland fields of that state, and production increased from 2,730,000 bbls. to 5,325,000 bbls., or not far from 100 per cent.

Average Production Per Well

The average production per well in the United States was 7.62 bbls. per day. The highest average per well production was in New Mexico, 83.91 bbls. per well, notwithstanding the curtailment of the big fields in the southeastern part of the state. East Texas was kept down to 36.58 bbls. per well. Oklahoma averaged 8.62 bbls. per well per day and California 43.40 bbls. per well. In the Eastern states outside of Michigan 171,400 wells averaged a shade less than three-fifths of a barrel per well per day. In the fields west of the Mississippi the average production per well per day was about 15.5 bbls. and even in that big area there are at least 25,000 wells averaging 1 bbl. per well per day.

Changes in Field Production

The following table gives the production in the first half of 1933 and the same period in 1934 of most of the more prominent pools and fields of the country as an indication of the increases and decreases that can take place in the course of a year:

First Six Months

	Barrels 1933	Barrels 1934
California—		
Coalinga	1,937,993	3,066,780
Elk Hills	2,290,031	1,848,931
Kettleman Hills	10,822,501	9,995,490
Lost Hills-Belridge	1,616,194	2,187,771
Midway-Sunset	8,532,023	9,845,959
Elwood	2,419,507	2,185,367
Ventura Avenue	6,280,949	5,274,235
Huntington Beach	4,810,759	7,422,294
Inglewood	2,135,136	1,625,066
Dominguez	3,197,466	3,261,260
Long Beach	12,732,221	11,638,581
Playa Del Rey	2,171,557	1,657,836
Santa Fe Springs	9,581,745	7,566,626
Seal Beach	1,989,953	1,918,922
Oklahoma—		
Bristow-Slick	1,987,582	1,897,180
Healdton	1,827,979	1,669,821
Oklahoma City	27,039,796	32,419,892
Seminole Field	15,778,368	13,319,134
St. Louis-Pearson	3,360,972	4,063,220
Cushing - Shamrock.	2,576,359	2,493,106
Kansas—		
Butler County	2,989,497	3,687,772
Greenwood County	2,116,171	2,237,412
McPherson	6,162,957	5,166,499
Harvey County	992,497	2,080,479
Texas—		
Yates	11,260,100	8,009,700
Hendrick	4,142,838	3,276,945
Big Lake	3,684,380	2,485,951
Chalk-Roberts	2,765,898	3,064,050
Church-Fields, McCamey	2,514,825	2,881,916
Van	9,172,660	7,350,926
East Texas	103,604,436	90,653,119
Pampa	5,227,219	5,985,630
Borger	1,944,850	2,226,231
Archer County	2,030,379	3,281,997
Wichita County	2,922,169	2,822,015
Government Wells	(*)	2,404,986
Darst Creek	2,410,924	1,680,293
Barbers Hill	3,984,435	3,231,832
Conroe	8,123,007	9,216,401
Thompson	2,487,124	2,127,407
Louisiana—		
Iowa	994,885	2,279,913
Arkansas—		
Smackover	4,471,365	4,034,055
Wyoming—		
Salt Creek	3,579,368	3,281,077
New Mexico—		
Hobbs	5,222,890	6,228,475

*Production carried as a part of Mirando district.

SUMMARY OF CRUDE OIL PRODUCTION IN UNITED STATES FIRST SIX MONTHS OF 1934

	1928 prod. first 6 mos. (bbls.)	1929 prod. first 6 mos. (bbls.)	1930 prod. first 6 mos. (bbls.)	1931 prod. first 6 mos. (bbls.)	1932 prod. first 6 mos. (bbls.)	1933 prod. first 6 mos. (bbls.)	1934 prod. first 6 mos. (bbls.)	No. of oil wells producing June 30	Ave. dly. prod. per well 6 mos. (bbls.)
New York	1,174,000	1,609,000	2,172,000	1,637,000	1,832,000	1,484,000	1,779,000	14,210	.69
Pennsylvania	4,829,000	5,489,000	7,344,000	5,465,000	6,427,000	5,934,000	7,764,000	77,300	.55
Ohio	3,594,000	3,252,000	3,390,000	2,811,000	2 357,000	2,067,000	2,086,000	35,600	.32
West Virginia	2,881,000	2,760,000	2,792,000	2,210,000	1,996,000	1,732,000	2,013,000	13,600	.87
Kentucky	3,633,000	3,464,000	3,878,000	3,176,000	2,994,000	2,216,000	2,098.000	14,750	.79
Michigan	211,000	1,273,000	2,146,000	1,511,000	2,950,000	2,730,000	5,325,000	923	31.87
Tennessee	24,000	12,000	7,000	4,000	2,000	1,000	4,000	.....	....
Indiana	496,000	502,000	519,000	409,000	437,000	300,000	400,000	2.090	1.05
Illinois	3,223,000	3,067,000	3,010,000	2,283,000	2,610,000	1,764,000	2,283,000	13,850	.91
Kansas	19,760,362	18,784,674	21,220,994	20,070,775	17,902,544	19,257,576	22,462,228	19,179	6.47
Oklahoma	117,458,526	126,020,255	117,779,527	95,838,677	77,113,805	80,157,672	91,123,782	58,421	8.62
North Central Texas	23,546,887	25,170,461	24,842,224	15.029.694	13,544,129	12,991,033	16,036,425	22,870	3.87
West Texas	58,209,778	65,533,126	58,824,487	40,690,647	32,807,924	29,228,785	24,094,946	3,242	41.06
Texas Panhandle	13,074,052	11,855,526	17,163,665	10.092,312	9,124,081	8,196,618	9,590,219	2,008	26.39
East Central Texas	4,298,691	3,712,775	5.616,731	8.877.881	9,982,024	10,338,363	8,494,287	966	48.63
East Texas	.....	.....	.....	31,532,184	60,752,039	103,604,436	90,653,119	13,694	36.58
Gulf Coast	23,276,495	26,754,614	35,982,479	31,422,135	24,551,304	34,174,761	38,025,163	3,654	57.49
Southwest Texas	4,840,921	12,039,599	12,275,729	13,563,721	11,094,330	10,215,027	9,276,727	4,670	10.97
Arkansas	16,443,803	13,432,562	10,332,347	8,649,636	6,309,267	5,556,924	5,584,605	2,825	10,92
North Louisiana	8,118,780	6,449,462	7,259,246	7,227,389	5,269,165	5,235,949	4,806,844	2,418	10.98
Wyoming	10,561,844	9,145,923	8,927,810	7,814,930	6,602,252	5,537,278	5,802,926	3,734	8.59
Montana	2,063,213	1,800,606	1,646,357	1,501,846	1,196,703	1,075,239	1,399,599	1,447	5.34
Colorado	1,353,756	1,255,498	850,036	758,242	614,793	454,502	500,418	193	14.33
New Mexico	404,683	544,826	2,511,118	7,522,672	6,610,435	6,386,350	7,851,605	517	83.91
California	112,961,846	141,884,413	118,402,863	95,675,449	90,944,073	84,407,535	86,459,456	11,007	43.40
Total	436,438,637	485,821,320	468,893,613	415,774,190	396,023,868	435,040,048	445,914,349	323,167	7.62

Dubbs refiners know how good Dubbs-cracked gasoline is but most motorists don't They don't even know it *is* Dubbscracked gasoline

It pays to tell them

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Notable Half Year in Michigan Fields With Big Wells, New Pools and Record Production

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

Michigan reached new heights in the oil and gas industry during the first six months of 1934, establishing six new records, opening several new oil and gas fields, extending several existing fields and discovering new pay sands in others.

Record drilling activity nearly doubled crude oil production as compared with the corresponding period last year. The state's largest oil well and gas wells were completed. Daily potential oil production was increased about 75 per cent, reaching a new high point, while major developments in the reserves and open flow of natural gas resulted. The number of new oil wells completed also was nearly double that of the first half of 1933, while new gassers were multiplied by five over the corresponding period last year.

A net increase of more than 100 oil wells boosted the state potential from 105,127 bbls. as of January 1 to 180,436 as of July 1, 1934, with 923 producing wells recorded in 11 fields from East to West Michigan.

Despite drastically curtailed production necessitated by a Federal daily allowable ranging from 29,000 bbls. as of January 1 to 33,200 bbls. as of July 1, the state produced about 5,325,000 bbls. of crude compared with about 2,730,000 bbls. during the same period last year and a total of 7,900,000 bbls. for all of 1933.

In addition to surpassing the previous half-year record with production of nearly 70 per cent of the annual record set in 1933, May, 1934, was the new high month when 985,624 bbls. of oil was produced, breaking the previous record of 965,000 bbls. set in October, 1933.

A total of 222 holes were completed, 154 of them for oil, 21 for gas and 47 "dusters." The 154 oil wells had an aggregate initial flow of 106,471 bbls., while the gas wells added an aggregate open flow potential of more than 68,000,000 feet per day. The new producers added more than quadruple the amount of new initial oil flow brought in during the first six months of 1933 and 10 times the amount of new gas flow developed during the corresponding period.

Michigan's Record Well

The biggest oil well ever completed in Michigan also was brought in when the Davis Oil Co.'s No. 6 Herman Neitzke, SW NE NW Section 21-13n-1w, Porter Township, Midland County, was rated at 14,497 bbls. a day from the Dundee sands. The limestone formation was topped at 3,364 feet, pay sands at 3,385 feet and the well completed at a total depth of 3,412 feet.

The record oil well is located in the Porter Township Pool of the Mount Pleasant area, which also became the biggest oil pool as yet developed in Michigan reaching a daily potential of 166,708 bbls. as of July 1, according to records of the Michigan Producers Proration Committee.

The prolific Porter Pool multiplied the potential daily open flow of all Michigan fields from about 30,000 bbls. as of July 1, 1933, to more than six times that amount as of July 1, 1934, placing the state in a much more important position among other large producing fields of the nation than it has ever before occupied and focusing the attention of an increasing number of operators upon the northern fields.

It is estimated the 228 holes were drilled at a cost of more than $2,500,000 but more than double this amount was realized from the sale of the crude at a posted price which held steadily at $1.02 per barrel with the exception of comparatively small production in one or two minor and newly developing fields.

The largest gasser in the nine-year history of the Michigan oil and gas industry also was completed in January by Taggart Brothers, Inc., of Big Rapids, whose No. 4 Robert S. Fish, C SE NE Section 4-14n-9w, Austin Township, Mecosta County, was gauged at 33,700,000 feet daily, open flow capacity, from the Michigan pay sands. The formation was topped at 1,323 feet and the hole bottomed at 1,338 feet. The gas is sweet and has a B.t.u. content of 1,050. It is located about three-quarters of a mile north of the state's previous record gasser, Taggart Brothers' No. 3 Fish, C SE SE, also Section 4, Austin Township, brought in about a month before for an open flow capacity of 27,500,000 feet a day. Together with three other previous producers the two Fish wells boosted the Austin Township Field into line with the Broomfield Township, Isabella County, Field, as one of the two larger gas areas of the state.

Potentials and Runs

Michigan crude oil daily potentials and runs as of July 1 for 11 proved fields with a total of more than 900 producers were announced as follows:

Pool—	No. wells	Potential, bbls. per day	Runs, bbls. per day
Porter	216	166,708	24,406
Greendale	313	4,106	4,106
Vernon	48	2,635	2,635
Yoat	13	3,322	846
Leaton	26	630	630
Muskegon	163	511	511
Montcalm	2	2,093	454
Ogemaw	13	234	234
Saginaw	114	102	102
Oceana	14	92	92
Cass	1	3	3
Total	923	180,436	34,019

MICHIGAN FIELDS
Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Midland	123	102,458	7	0
Isabella	49	2,787	11	18
Ogemaw	13	837	4	0
Oceana	9	216	4	0
Montcalm	2	116	0	1
Muskegon	2	50	1	0
Saginaw	6	5	5	0
Lapeer	2	2	1	0
Shiawassee	2	0	2	0
St. Clair	3	0	3	0
Allegan	1	0	1	0
Monroe	1	0	1	0
Mecosta	4	0	2	2
Osceola	1	0	1	0
Arenac	2	0	2	0
Gratiot	2	0	2	0
Total	222	106,471	47	21
Last year	102	22,350	27	3
Difference	120	84,121	20	18

Pool of Big Wells

Among the proved fields, Porter Township was by far in the lead with new developments including not only the completion of the state's largest oil well but also the drilling of several which made 5,000 bbls. or more with indications the pool is far from outlined and drilled up as the half year closed.

During the last week of the year another record also was established when 11 wells, seven of them located in Porter Township, were credited with an aggregate initial of nearly 29,000 bbls. This culminated a month of big completions which had added about 9,000 bbls. of initial weekly. The second largest Well of the six-month period was completed during the second week of June when the Pure Oil Co.'s No. 4-B W. W. Hoyt, SE SW NW Section 21, Porter, made 8,600 bbls. a day potential in the Dundee pay sands topped at 3,576 and finished at 3,426 feet.

Among the newer fields, developments in the Home Township, Montcalm County area, attracted greatest attention and had resulted in a spirited drilling campaign getting under way during the last few weeks before the half year closed. Two wells drilled by the Daily Crude Oil Co., which opened the field toward the close of 1933, were rated at more than 1,000 bbls. a day potential after acid treatment while a third well was completed on an offset lease by the Pure Oil Co. with a rated potential of about 600 bbls.

About 25 wildcats and semiwildcats were drilling along the so-called Montcalm-Mecosta County trend, a northwest-southeast structure extending for about 30 miles between the Home Township oil wells producing from the upper Traverse and the Austin Township gassers completed in the Michigan sands.

Between the two the discovery well of a probable gas field was brought in during May by the Columbia Oil & Gas Co. It was No. 1 Albert J. Dutmers, SW SE NW Section 23-13n-8w, Hinton Township, Mecosta County, which had an open flow capacity of 7,500,000 feet a day on a location about 10 miles southeast of the Austin Township Field. Michigan sand was topped at 1,308 feet and the well completed in the pay sands at 1,312 feet.

The discovery well of what may yet develop into a new oil pool between the proved Leaton and Chippewa Fields was brought in by the McClanahan Oil Co. in its No. 1 Stanley Demski, SE SE SE Section 28-15n-3w, Denver Township, Isabella County. It topped the Dundee at 3,580 feet, the pay at 3,620 feet and made about 60 bbls. initial. It is 2 miles east of the Leaton Pool also in Denver, Isabella.

The Wittmer company, of Pittsburgh, also opened its third new pool by completing the No. 1 John McReavy, C SW Section 12-15n-4w, Isabella Township and County, for 65 bbls. initial from the Dundee on a location halfway between the Vernon gas and oil field and the Leaton oil pool.

Oil in Lapeer County

An interesting new oil development was the completion of three small Berea wells in Oregon Township, Lapeer County (southeastern Michigan), including Flynn Oil & Gas Co.'s Nos. 1 and 2 Herbert Branick wells and William C. Sowell's No. 1 Max and Ann Kohler, NW SE SW Section 4-8n-9e. Berea sands were topped in the Kohler well at 1,408 feet and drilled 2 feet in for the pay. The three wells have made from 5 to 25 bbls. of sweet, high gravity Berea oil daily.

Early in May the Youman-Burke Oil & Gas Co. extended the Broomfield Township gas pool about a mile northward by completion of No. 1 William L. Chaffee, SE NE Section 31-15n-6w, into Sherman Township, also Isabella County. It made an open flow of 4,250,000 feet a day, topping the Michigan sands at 1,384 feet and completing at 1,394 feet.

The Broomfield Pool also was extended toward the southeast about a mile by the completion of four wells ranging from 1,000,000 to 2,000,000 feet a day in open flow. They extended into Sections 14 and 15 of the township. Aggregate open flow capacity of five new producers in Broomfield was 7,500,000 feet.

The Youman-Burke company also completed a second producer, No. 1 William LaFever, C SW NW Section 32, Sherman Township, for an open flow capacity of 4,250,000 feet a day definitely establishing the northern extension and opening a considerable area for new development during the months to come.

Deepening in Muskegon Field

Half a dozen old Traverse and Dundee wells in the Muskegon Field were deepened into the Monroe, about 200 feet to 2,250 feet, making from 100,000 to 300,000 feet a day.

A prospective new Montcalm County gas pool also was indicated by a flow of about 500,000 feet a day from the Michigan sands at a depth of 1,172-78 feet in William J. Wilson, trustee's No. 1 Beach, NE NE SW Section 17-12n-5w, Richland Township, about 5 miles southeast of the new Montcalm oil pool.

In Ogemaw County

Gas also was struck in the upper Traverse formation in Ogemaw County but failed to develop into commercial quantities in Dr. C. L. Hess and others' No. 1 Fisk Brothers, Section 27-22n-2e, West Branch Township, at 1,995 feet. A similar show was encountered in the east offset drilled by the Pure Oil Co. also on the Fisk property.

Both of these wells subsequently were drilled on to the Dundee where they were completed as small producers in what may prove to be a new producing level in an area which has experienced several disappointments in the spottiness of the Traverse oil sands.

The Weber Oil Co., of Bay City, recently has acquired the Pure Oil Co.'s producers in Ogemaw County and is proceeding with a program of development.

A small Dundee oil well also was developed by a deep test in the Broomfield gas pool.

Oil was encountered at 3,635 feet in the Pure Oil Co.'s No. 2 Willie, SE NE Section 4-14n-6w, Broomfield Township, about 14 miles west of the original Mount Pleasant Field. The limestone was topped at 3,633 feet and was encountered at 3,668 feet. It was plugged back for an estimated production of 100 bbls. a day of 44 gravity sweet crude early in April.

The Hess-Fisk well in West Branch Township, Ogemaw County, SE SW SW Section 27-22n-2e, made about 40 bbls. a day at 2,547 feet as a Dundee producer. The McClanahan Oil Co.'s No. 1 Frank and Joseph Heintz, NW NW NW Section 24-22n-1e, encountered oil in the Dundee at 2,714 feet and made about 10 bbls. natural as a possible new Dundee discovery in Ogemaw Township, several miles from the other Dundee wells in this isolated field, 50 miles north of the Mount Pleasant area.

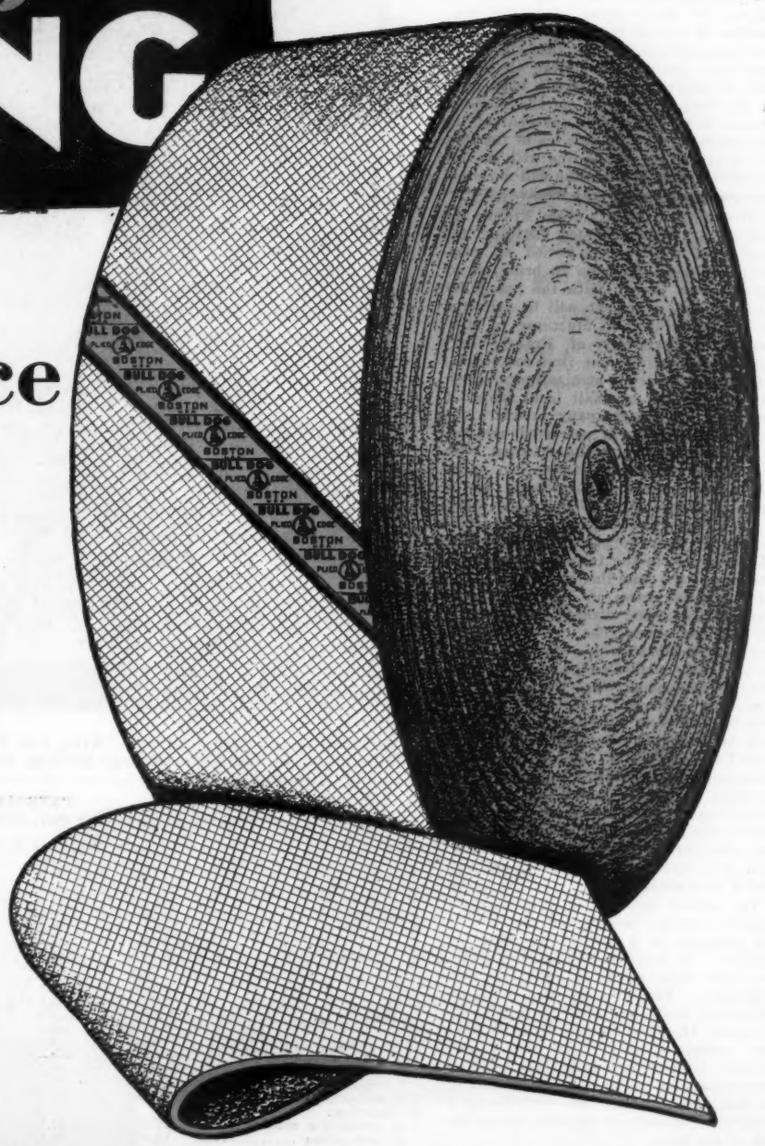
Sun Oil Co. had a show of gas in the Michigan series at 1,349 feet in its No. 1 William O. Flemming, NE SE NW Section 5-17n-8w, Evart Township, Osceola County, a rank wildcat 30 miles northeast of the Austin Township, Mecosta County, gassers. It was later drilled into the upper Traverse where a 50-bbl. show of oil was encountered at 3,185 feet, about 33 feet in the formation, before it was drilled into water. It was finally carried to the Dundee without success, plugged and abandoned. The Sun company recently started a new test in the same township.

The Michigan Cities Natural Gas Co., formerly the Isabella Oil Development Co., purchased the Pure Oil Co.'s gas well properties in Broomfield Township.

(Continued on Page 130)

BULL DOG *Gold Edge* BELTING

for Oil Field Service



● **Exceptional strength and flexibility make Bull Dog Gold Edge Belting ideal for all kinds of pumping.**

Bull Dog absorbs the shocks and strains of sudden starting and overloads, characteristic of pumping, without permanently elongating, and does not dry out and harden but remains alive and elastic until worn out.

Bull Dog is supreme in horse-power capacity, operates effectively under the most difficult drive conditions on Beams and Powers, holds fasteners firmly and may be run on either side. Makes an excellent endless belt.

Other B. W. H. products for the oil fields and oil and gas industry are Driller King and Bull Dog Rotary Hose, Steam Hose, Water Hose, Gasoline Hose and Air Hose.

BOSTON WOVEN HOSE & RUBBER CO.

Makers of Quality Rubber Goods for More Than Fifty Years

Works: Cambridge, Massachusetts Postal Address: Box 1071, Boston, Massachusetts

● ***Distributors:*** **Atlas Supply Co., Muskogee, Okla., and branches. Peden Iron & Steel Co., Houston, Texas. The Murray Co., Dallas, Texas.**

NEWS FROM FOREIGN LANDS

IRAQ

The refining of Iraq crude at a plant outside that country during August appeared probable last week when it became known that the first crude from the Kirkuk Field had been delivered at Tripoli, Syria, the northern terminal of the pipe line of the Iraq Petroleum Co., which has been under construction over the past two years. The filling of the line started in early June with the completion of half of the pipe line pumping stations and it is thought that the line is now in a position to deliver oil at the rate of approximately 20,000 bbls. daily at the Tripoli terminal on the Mediterranean Sea. This is 50 per cent of the maximum capacity of this leg of the line. The southern leg of the line with its terminal at Hafia in Palestine will not start delivering oil for several weeks.

According to reports from France the Compagnie Francaise des Petroles, the largest of the French owned oil companies is now preparing to bring oil by tanker from Tripoli with the possibility that the first shipment will be delivered to its new refinery at Martiques, a Mediterranean port city of France, next month. This will be the first commercial refining of the crude at a refinery except that refined as a small local plant in Iraq. The French company in which the French government is interested, also has a refinery at Gonfreville, France, with a crude oil capacity of 18,000 bbls. daily. The plant located at Martiques has a rated oil capacity of 15,000 bbls. daily.

The Compagnie Francaise des Petroles is one of four concerns, each owning 23.75 interest in the Iraq Petroleum Co., builders of the pipe line and owners of a large oil concession in Iraq, with substantial production already developed in the Kirkuk area. The other three interests are subsidiaries of the Royal Dutch-Shell, Anglo-Persian and the Near East Development Co., the latter an American concern controlled by the Standard of New Jersey with stock also held by the Gulf Oil Corp. and the Socony-Vacuum Oil Co., Inc. All of these concerns have refineries and marketing facilities in France and it has been assumed that country would absorb a large part of the Iraq pipe line deliveries which with the final completion of the line early next year are expected to total around 80,000 bbls. daily.

The actual delivery of crude at the Tripoli terminal means that the operating program is a few weeks ahead of schedule. It had not been expected that the first crude would be delivered until September. The Tripoli terminal has 15 93,000-bbl. tanks completed or under construction. Deep sea loading facilities have been completed at Tripoli with three berths. It is expected that the remaining stations on the line will be completed so that the northern line will be in a position ot operate at capacity before the end of the year.

It is understood that owners of the Iraq company have not finally worked out plans in regard to the distribution of the large quantity of crude oil which will be available within the next six months. It is recognized that the availability of the Iraq crude will necessitate important changes in the present movement of crude oil and refinery products to European and Asiatic countries. Except for the French owned company, the other interests have other producing and refining facilities which must be considered in the allocation of the new supplies. It is understood that every effort is being made to provide for the orderly distribution of the crude as it becomes available in increasing quantities.

View of derrick over the well "Krug von Nidda 10", in the north Nienhagen field of Germany. Rotary drilling equipment is used exclusively

MEXICO

The following values and production values for July have been established by the Mexican government: (Values are calculated in silver at exchange of 3.60.)

VALUES

	Silver pesos per cubic meter	Dollars
Fuel oil	29.44	$1.30 bbl.
Gasoline	99.87	.0945 gal.
Kerosene	52.59	.0553 gal.

PRODUCTION TAXES

	Tax per cubic meter (pesos)	Tax in U. S. currency
Crude (sp.gr. 0.93=Be. 20.38)	3.510	$0.15501 bbl.
Crude (sp. gr. 0.96=Be. 15.68) or heavier	2.143	.09464 bbl.
Fuel oil (sp. gr. 0.95=Be. 17.21)	3.297	.14560 bbl.
Gasoline (crude)	3.595	.00378 gal.
Gasoline (refined)	1.797	.00189 gal.
Kerosene (crude)	3.155	.00332 gal.
Kerosene (refined)	1.578	.00166 gal.

The production tax on fuel oil will vary approximately .01194 per barrel for each degree of specific gravity above (deduct) or below (add) 0.95 specific gravity.

The production tax on light crude will vary approximately .01271 per barrel for each degree of specific gravity above (deduct) or below (add) 0.93 specific gravity.

EXPORT TAXES

NOTE: As export taxes are payable in silver at par, to make calculations in U. S. currency, take figures given below, multiply them by two and divide by rate of exchange at time of payment.)

	U. S. Currency ($1 for 2 pesos)
Crude (sp. gr. 0.93=Be. 20.38)	$0.07949 bbl.
Crude (sp. gr. 0.96=Be. 15.68) or heavier	.04828 bbl.
Fuel oil (sp. gr. 0.95=Be. 17.21)	.05962 bbl.
Gasoline (crude)	.00472 gal.
Gasoline (refined)	.00159 gal.
Kerosene (crude)	.00157 gal.
Kerosene (refined)	.00057 gal.

JAPAN

The new petroleum control law in Japan which requires that importers of petroleum products into that country have stocks on hand at all times equal to 50 per cent of their yearly imports, has forced some companies to add to their storage facilities. This action, which presumably was taken as a national defense measure, became effective July 1.

PETROLEUM OPERATION IN THE U.S.S.R.

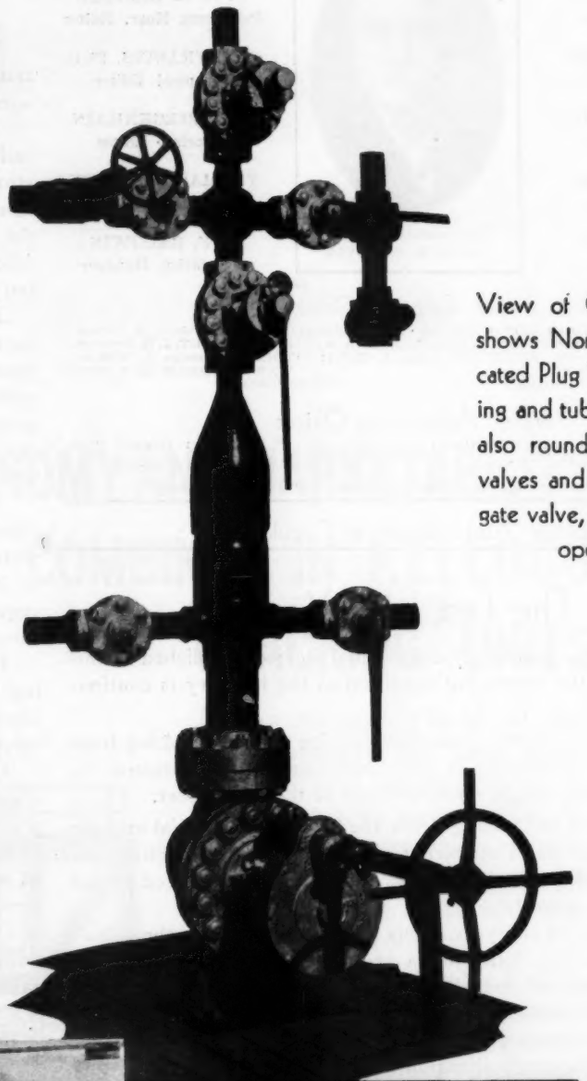
Preliminary Figures for May, 1934, and Revised Figures for April, 1934 (Data in metric tons)

Production of Crude Oil

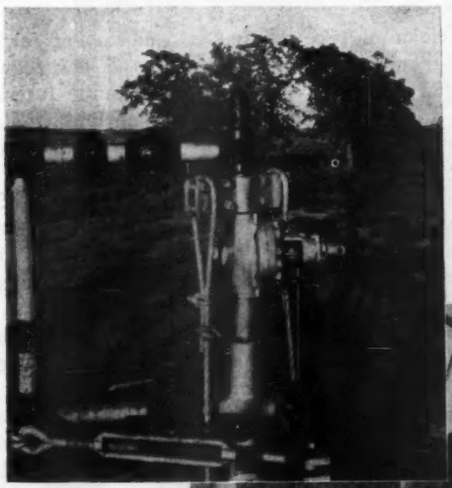
	May, 1934	Per cent of plan	April, 1933	May, 1933	4 mos., 1934	Per cent of plan	4 mos., 1933	1934 per cent of 1933
Azneft	1,601,700	87.6	1,564,100	1,301,600	7,645,200	86.9	5,431,100	140.8
Grozneft	304,400	64.8	320,200	432,700	1,612,700	70.9	2,210,100	73.0
Maineft	85,800	103.4	80,700	49,300	355,800	107.8	233,100	152.7
Embaneft	22,600	98.3	18,700	18,100	91,800	93.7	80,400	114.2
Other trusts	30,500	47.4	29,800	47,700	142,900	58.3	236,900	60.3
Total	2,045,000	82.8	2,013,500	1,849,400	9,848,400	83.9	8,201,500	120.1
Drilling (In meters)								
Azneft	67,085	95.1	62,366	38,508	318,677	99.3	198,838	160.3
Grozneft	22,101	88.2	19,385	9,267	104,180	87.1	41,203	252.8
Maineft	4,910	68.2	6,399	3,435	21,839	66.8	13,852	157.6
Embaneft	4,549	62.3	2,336	5,436	11,537	45.5	15,022	76.8
Other trusts	17,969	79.4	16,910	9,176	73,791	81.6	38,157	193.2
Total	116,604	87.5	108,376	65,822	530,024	89.9	307,072	172.6
Consisting of:								
Production drilling	80,457	91.5	77,403	38,931	382,699	93.0	203,274	188.3
Wildcatting:								
In producing areas	22,169	87.1	17,737	15,740	89,733	90.7	64,187	139.8
In new areas	13,978	72.1	13,236	11,151	57,592	72.9	39,612	145.4
Runs to Stills of Refineries								
Azneft	1,150,100	101.6	1,117,200	1,104,600	5,590,400	101.4	4,839,300	115.5
Grozneft	709,800	83.9	666,700	549,500	2,926,000	76.2	2,421,700	120.8
Aviafuel	3,300	....	11,500	8,800	42,300	86.2	66,100	64.0
Oil plants	6,000	117.6	10,100	4,200	41,800	96.8	41,500	100.7
Sredazneft	2,500	33.3	3,400	3,800	13,700	34.9	18,500	74.1
Total	1,871,700	94.0	1,808,900	1,670,900	8,614,200	90.9	7,387,100	116.6
Production of Gasoline								
Azneft	88,450	100.3	93,300	88,000	415,300	91.6	383,800	106.9
Grozneft	158,500	97.7	147,700	162,100	698,200	90.3	691,300	101.0
Aviafuel	1,200	171.4	2,800	2,300	10,100	98.1	9,400	107.4
Sredazneft	250	31.8	400	300	1,350	23.0	1,500	90.0
Total	249,350	98.8	244,100	242,700	1,125,350	90.7	1,091,000	103.2
Refined Kerosene								
Azneft	275,900	109.3	256,400	226,200	1,305,200	105.9	999,100	130.6
Grozneft	170,900	76.9	157,000	118,300	694,400	69.4	495,300	140.2
Aviafuel	600	....	2,200	900	9,100	116.2	9,100	100.0
Oil plants	800	133.3	1,700	700	6,000	126.6	1,300	461.5
Sredazneft	150	11.5	300	500	1,450	20.4	1,600	90.6
Total	397,350	92.9	361,200	346,600	1,738,150	85.2	1,506,400	115.4

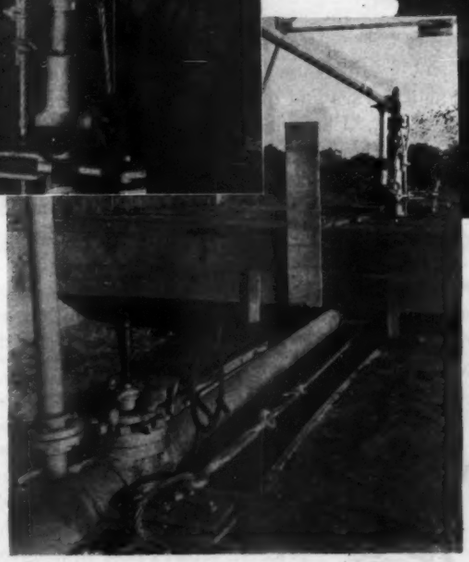
Mid-continent hook-ups using valves by NORDSTROM

CONTROL during drilling, control of mud lines, control of flow lines,—control of all lines in fact can only be safely maintained by valves protected against erosion —and positively sealed against leakage. In the mid-continent and gulf-coastal fields, engineers are readily adapting Nordstrom Lubricated Plug Valves and round-opening master drilling valves (manufactured by Nordstrom) to their modern Hook-ups.



View of Christmas tree shows Nordstrom Lubricated Plug Valves on casing and tubing flow lines; also round-opening plug valves and master drilling gate valve, the latter gear-operated.





NORDSTROM *Lubricated* **VALVES**

Nordstrom Valves are made in all metals suitable for oil field service, in all desirable sizes and for all pressures.

In addition to their application for drilling and production, Nordstrom Valves are available in gate valve face-to-face dimensions for all services.

Ask for Bulletins No. V100 and V102

MERCO NORDSTROM VALVE COMPANY
A Subsidiary of
PITTSBURGH EQUITABLE METER CO.
Main Offices: Pittsburgh, Penna.
Branch Offices and Warehouses in Principal Cities

THE OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published Weekly by

THE PETROLEUM PUBLISHING COMPANY

114-16 West Second Street, Tulsa, Oklahoma

P. C. LAUINGER, President
JOHN M. EGAN, General Manager
JAMES McINTYRE, Editor
ANDREW M. ROWLEY, Managing Editor
W. T. ANDERSON, Associate Editor
C. O. WILLSON, Refinery Editor

Established 1910 by PATRICK C. BOYLE

E. KLAPPENBACH, Advertising Manager
L. G. E. BIGNELL, Petroleum Engr. Editor
C. K. FRANCIS, Ph.D., Technical Editor
W. T. ZIEGENHAIN, Associate Editor
THOMAS F. SMILEY, Associate Editor
M. F. BALDWIN, Circulation Manager

Branch Editorial Offices

CANADA, Victor Lauriston
DENVER, Tolbert R. Ingram
FT. WORTH, L. E. Bredberg
HOUSTON, Neil Williams
LOS ANGELES, L. P. Stockman
NEW YORK, C. O. Willson
MICHIGAN, Paul A. Elliott
CHICAGO
OIL CITY, Robert C. Conine
SHREVEPORT, J. R. Crumpton
TOLEDO, George A. Whitney
WASHINGTON, Hugh D. Mallon
PITTSBURGH

Branch Advertising Offices

NEW YORK CITY, C. L. Cain
CHICAGO, C. R. Farmer
CLEVELAND, Howard Markt
HOUSTON, Paul T. Putnam
LOS ANGELES, J. H. Tinkham

(For representatives' complete addresses, see contents page)

Member, Audit Bureau of Circulations

The First Half Year

The Oil and Gas Journal's Semi-Annual Review, published in this issue, shows that the improving condition of the industry is continuing.

Despite "hot" oil and the weakened gasoline market resulting from it the crude price structure has been maintained, largely because recession would have brought about collapse of the code effort.

The steady drain on existing fields, the decline in potential in some areas and the absence of menacing discoveries revived drilling and made the half year profitable to operators after a prolonged period of comparative inaction.

The second half of the year opens with a reduction in the allowable crude production, following a reduction in the allocation for gasoline production, but this is reassuring rather than otherwise. The purpose is to take advantage of the season of heaviest consumption to reduce surplus stocks of crude thereby strengthening the market now and putting the crude situation in shape where it can withstand the usual seasonal decline in demand in the Fall.

A month ago the question was whether the market could be held during the summer months but foresighted observers were looking more anxiously to what might happen after the peak of consumption. That doubt has been largely removed by the plan to reduce surplus in August and get the industry statistically balanced for the fall and winter.

The unsatisfactory refined markets during the greater part of the first six months were responding to the projected plan for the buying of surplus gasoline in East Texas towards the close of the period.

We may have to wait for full month reports before a definite picture of the effects of this buying plan can be developed. It has undoubtedly strengthened the market but there has been enough under price gasoline available to confuse the situation.

At the close of the first month total figures should reveal the exact situation, how loyally signers are respecting the agreements and approximately what non-signers have been doing to break the market.

The tone of the market, while sensitive to disturbing influences has been optimistic, the best indication of faith in the ultimate success of the plan. Some independent refiners who had refused to join in the plan when it first was presented to them have fallen in line later after seeing the plan at work.

So, while the first half of the year may not have made all the progress hoped for, it has been ever so much better than for several years, and has laid a foundation for continuing improvement during the remainder of 1934.

Strengthening Enforcement

The revised regulations announced by the Federal oil administration certainly appear inclusive enough to cover any phase of illegal operations.

The requiring of the keeping of records and filing of reports by "all persons engaged in producing, refining, reclaiming, shipping, storing, transporting, buying or selling, or otherwise dealing in or handling petroleum or the products thereof" is backed by a section of the United States Criminal Code, approved by Congress just before adjournment, prescribing a fine up to $10,000 or imprisonment up to ten years for making false statements.

Because of the large profits from handling illegal oil some in the past have felt the profits from violation were worth the risk of the penalty then involved but Administrator Ickes tersely observes that application of the regulations under the new law may be expected to change that attitude. The country's experience with the income tax law has been very convincing of the effectiveness of such penalties.

Assuming then that compulsion to keep these records and file such reports is effective the Federal oil administration will have a complete record of every transaction from the well to the buyer. It will no longer be possible to put out statements magnifying the effect of regulation that fails to regulate. Each offender will be known and there will be no further excuse for lack of prosecutions.

By the time the Congressional sub-committee gets around to holding hearings the Petroleum Administration should have records in black and white which will dispose of all conflicting testimony by interested witnesses.

If any violators take the risk of punishment for making false statements the facts can be checked by the new regulations which prescribe that agents of the Department of the Interior shall have free access to books, to inspect wells, pipe lines, tanks, plants and all equipment. Heretofore the Federal agents have had in the main access only to the books of operators.

Coincident with the announcement of the revised "hot" oil regulations the Oil Administration authorized a plan for the elimination of gasoline price wars. This, however, unlike the "hot" oil regulations, is not a matter of governmental regimentation but of regulation within the industry.

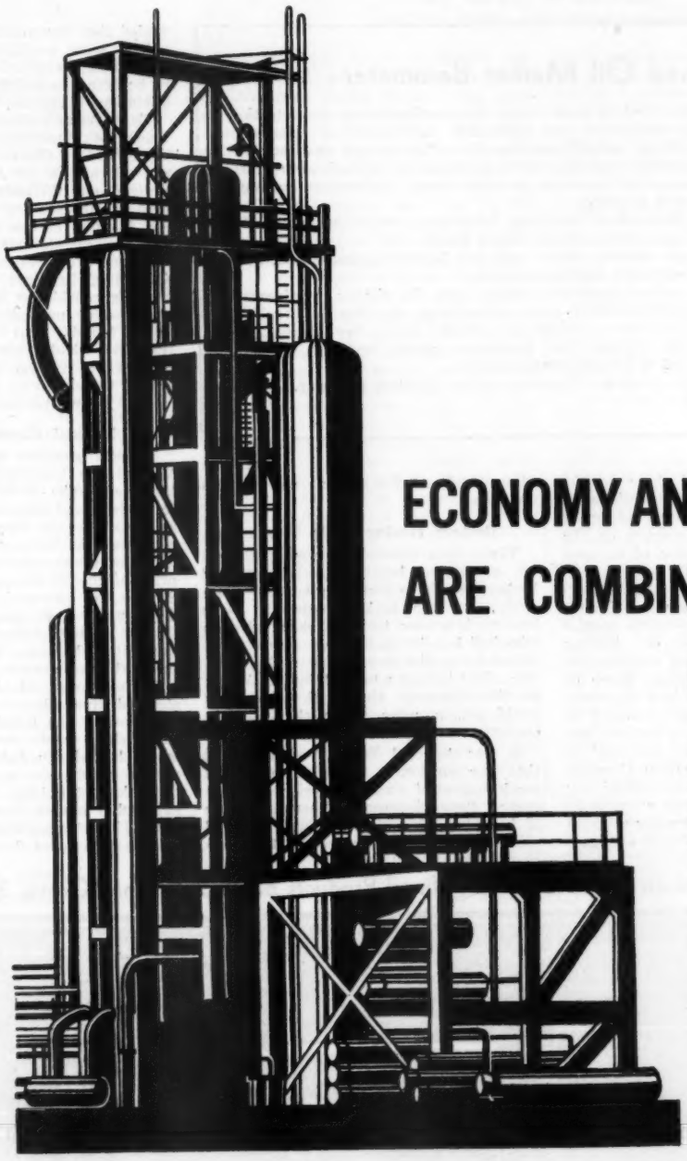
The Planning and Coordination Committee is authorized to establish local committees as needed to deal with local gasoline price wars and to negotiate settlements in such areas.

Chairman C. E. Arnott, of the marketing sub-committee, is authorized to designate committees for each locality when price wars develop, with authority "to confer and to negotiate and to hold public hearings to ascertain the elements of the conflict and in a cooperative manner stabilize the price level to conform to that normally prevailing in contiguous areas where marketing conditions are similar."

It would seem that this plan has all the elements of fairness necessary to settle any price war if the disputants are at all reasonable. Experience suggests that cases may be found where unreasonable men will make settlement impossible. In that case the Oil Administration may have to think again.

These, however, should be so few that the force of popular opinion, when the facts are presented in public hearing, should be strong enough to compel adjustment. The plan is at least worth trying and with the stabilizing of the crude and refined price structures now in progress opportunities for price wars should be reduced, if not eliminated.

NRA MEMBER U.S. WE DO OUR PART



ECONOMY AND MARKETABILITY ARE COMBINED IN KELLOGG CRACKING UNITS

During the years The M. W. Kellogg Company has been manufacturing and installing cracking equipment, they have continuously maintained a research program to develop plants which properly balance refining costs with marketability of products.

This is one reason why Kellogg Cracking units have a reputation for producing quality gasoline with low barrelage investment costs.

KELLOGG

THE M. W. KELLOGG COMPANY
225 BROADWAY, NEW YORK

Los Angeles . . . . . 1031 South Broadway
San Francisco . . . . . 200 Bush Street
Tulsa . . . . . Philtower Building

LICENSING AGENT FOR GASOLINE PRODUCTS COMPANY, INC. Licenses granted under United States and Foreign Patents for: Cross · de Florez · Holmes-Manley · Tube and Tank Cracking Processes and Combination Cracking Units · European Representatives: Compagnie Technique des Petroles · 134 Boulevard Haussmann · Paris, France.

KELLOGG PRODUCTS INCLUDE: Cross, Holmes-Manley, de Florez and Tube and Tank Cracking Units, Absorption Plants and Pipe Stills, de Florez Temperature Control. Pressure Vessels for the Power, Refinery and Chemical Industries. Power Plant and Industrial Piping. Pacific Hot Oil Pumps, Radial Brick Chimneys. Plastic Refractories.

Evidences of Increasing Confidence in Gasoline Purchasing Plan Visible in Group 3 Area

By T. F. SMILEY

Evidences of widening confidence in the petroleum administration's campaign to stabilize gasoline prices through purchase of excessive stocks by major refining companies were discernible this week in the Oklahoma (Group 3) territory notwithstanding the fact that the market had experienced several uneasy days, with stocks showing a tendency to accumulate again in the East Texas area and with prices jumpy.

The immensity of the stabilization undertaking is coming to be realized more fully, but as the machinery set up for its operation is seen to move with increasing smoothness and one difficulty after another has been diminished if not removed, there is less disposition to scoff from the sidelines and an increasing readiness to co-operate. Even among the vigorous proponents of the scheme few are willing to predict its outcome with assuredness, but at the same time the lukewarm concede it is an experiment in the right direction, with likelihood of its success growing as the days pass.

East Texas Troublesome Again

The middle of last week witnessed a faltering gasoline market. Notwithstanding the general supposition that the East Texas district had been cleared of distress stocks and that prices had been pegged by contracts under the purchasing plan, it was a matter of common knowledge that some refiners were hunting immediate outlets and that low-octane U. S. material was obtainable at 3¼ cents resale. Even this price is reported to have been shaded in some instances. Contracts had been made by major buyers for the same grade of motor fuel a few days before at 3⅝ and 3⅞ cents.

No satisfying explanation for this situation was offered. Among possible reasons mentioned were lack of jobber buying, dilatoriness here and there on the part of majors in giving instructions on purchases, and material contracted for by brokers overhanging the market as the result of inability to dispose of it upon delivery.

Owing to the dearth of adequate storage facilities in East Texas any failure to order out motor fuel promptly results quickly in accumulation of distress stocks. And the inevitable consequence of distress stocks is dumping. Some of the majors after entering into contracts with East Texas refiners are reported to have been unwilling to give instructions until the contracts had been approved by the Planning and Coordination Committee. Although the delay thus involved was slight, it is said to have been a factor in clogging deliveries. Other majors are said to have been slow in ordering out gasoline purchased for reasons not clear to observers.

Brokers Having Their Worries

There was general agreement that a bit of active buying by jobbers and brokers would stiffen the market materially, but the brokers especially were having their own troubles. Some of them who had bought on contract found themselves facing the necessity of taking gasoline while having no outlet for it. Caught in this dilemma, they took what they could get, a price lower than current quotations.

It was reported Tuesday of this week that the marketing situation had been much improved and that prices had regained their firmness. Although rumors of bargains were afloat, it was declared efforts to take advantage of them revealed that the quantities of gasoline involved were negligible. In the case of high-octane material there was reported to be actual scarcity, with corresponding stiffening of prices.

East Texas refiners met in Tyler last Friday with unofficial representatives of the P. and C. Committee to discuss crude run allocations for August and to strive to iron out difficulties that had developed. Refiners of the Gladewater district met Monday of this week to confer over measures for strengthening their position.

Among evidences of the better situation developing in East Texas and of the growing confidence in the workability of the gasoline purchasing plan, it was reported Monday that one of the larger refiners who had refused to enter into the plan when it first was presented, had agreed to join in it. Other holdouts were said to be weakening.

Natural Gasoline Buoyant

Natural gasoline showed a continuation of the buoyancy which marked it last week. The 26-70 grade, which was in predominant demand, was being quoted at 3 cents to the trade, a gain of a half-cent over the level of the previous week, and the usual relationship between the price of the 26-70 and that of the other grades was obscured. While customary differentials were preserved in the quotations among marketers, it was stated that little business was being done in the stabilized grades.

Kerosene was soft, but prices were unchanged. Neutrals continued fairly steady.

Following the trend of eastern prices, the bright and steam-refined stocks, which had shown distinct signs of weakness, underwent a price reduction throughout the line. The bright stocks suffered a cut of 2 cents all along the line. The steam-refined materials were subject to a price drop of about a cent.

Refined Oil Market Barometer

Quiet markets prevailed in most areas. In drouth-stricken districts the underconsumption of motor fuel was noticeable. Indications of improved conditions in East Texas, notwithstanding the acknowledged presence of small quantities of gasoline seeking outlets, were having a tendency to impart steadiness to motor fuel markets in other areas. Lubricants lagging. Smart pickup in natural gasoline.

Mid-Continent—Motor fuel steadying following a weak market. Naturals strong. Bright and steam-refined stocks down.

East Coast—Better tone in motor fuels for domestic consumption, but export market unsatisfactory. Lubricants slow.

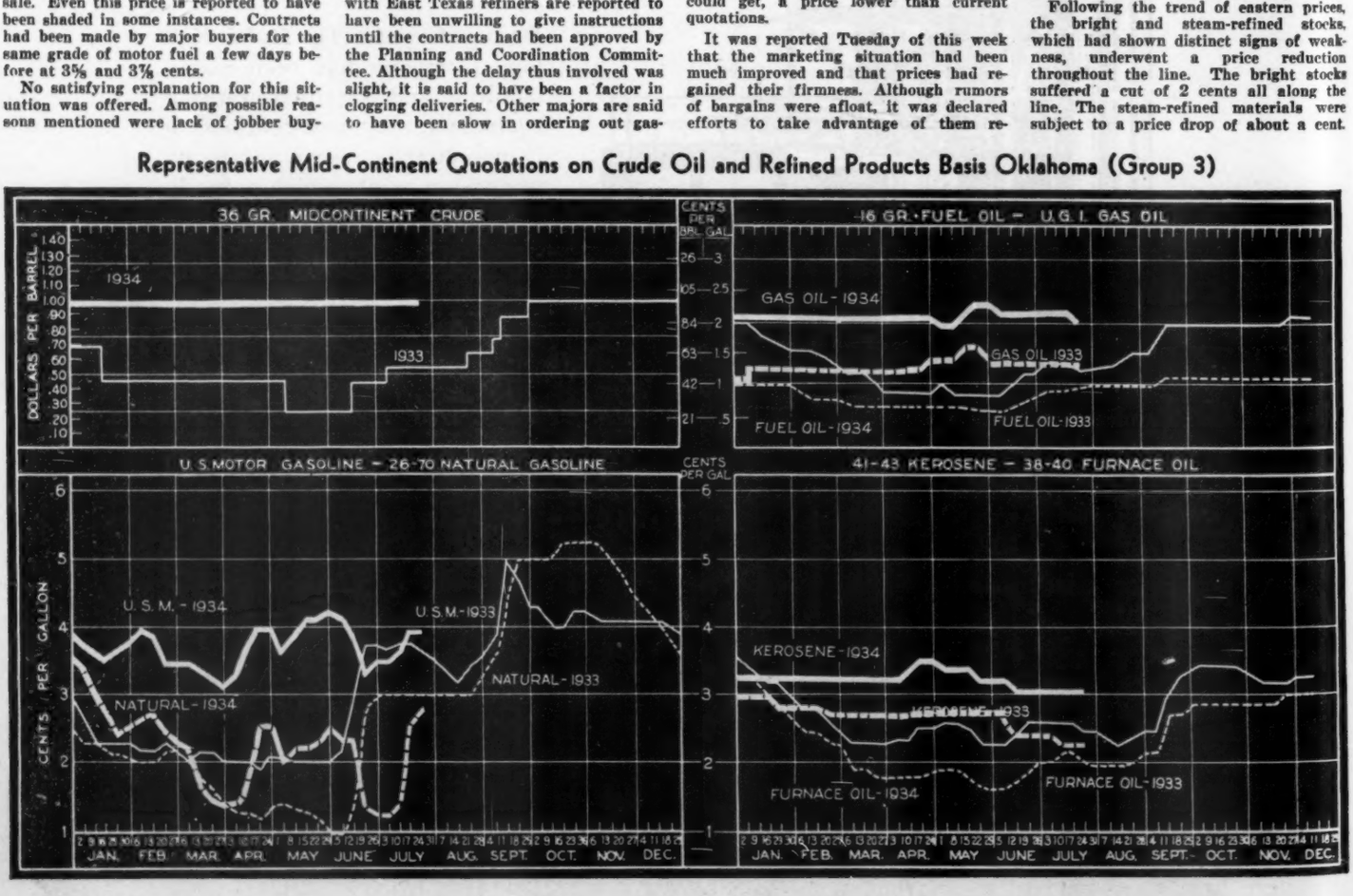
Gulf Coast—All refined products marking time. No change in prices.

Pennsylvania—Overproduction and overrefining combine to weaken market. Neutrals down 2 cents. Bright and cylinder stocks down 1 cent.

California—Market listless. San Francisco market regaining normal conditions following end of longshoremen's strike.

Chicago—Gasoline irregular. Kerosene active. Heating oils easy. Fuels quiet. Naphthas dull.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Better Feeling Apparent in the Eastern Market; Decline in Exports May Affect Situation

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, July 23.—Reflecting the improved price situation at the Gulf Coast and the Mid-Continent, a better feeling is apparent today among the tank car sellers of motor fuels. So far as the posted prices of the larger companies are concerned quotations are unchanged from a week and a month ago except for a few reductions or advances at scattered points due to local conditions. The trade in this section has been concerned for several weeks due to the weakness of the Gulf Coast markets on gasoline and the upturn of the past 10 days has been welcomed as minimizing the threat of excess material being unloaded on this market in tanker lots at prices that would force a general reduction in quotations. It is known that some cheap material was bought at Gulf Coast terminals during the early part of July and additional quantities were offered but so far these shipments have not seriously disturbed the going markets here as established the latter part of May.

Starting the latter part of last week, improvement was noted in the Gulf Coast quotations for coastwise movement and it was hoped that this trend would continue until the quotations were in line with the prevailing prices at Atlantic Seaboard points taking into consideration the cost of tanker transportation to East Coast points. In this connection, market students for several weeks have been pointing to the disparity that exists at the Gulf Coast in export and domestic quotations. While the domestic prices up to a week ago were declining they have nevertheless been above the export quotations. The latter market has been inactive for several weeks and according to those in a position to know is a threat to satisfactory domestic markets at the Gulf and along the Atlantic Seaboard.

Export Reaction

Past history has shown the close relationship between domestic and export markets and low prices in the latter have invariably resulted in shipments which ordinarily would be sent to foreign buyers, being diverted to domestic channels. At this time with sellers endeavoring to maintain a price around 5 cents for middle octane U. S. Motor gasoline in domestic shipments at the Gulf, the prevailing quotation for the same grade material in the export market is 4¼ cents or less and 4½ cents for the 64-66 375 endpoint material. Actually, the export sellers have been unable to move any spot material at these low prices over the past month due to the fact that Rumanian and other foreign refiners have been taking European business at lower prices. Due to this condition it is known that refiners and terminal operators at the Gulf have offered refinery gasolines and natural gasolines to East Coast buyers which they had accumulated expecting to move it to regular customers in foreign countries.

This incongruous price situation in domestic and export markets which also applies to some of the other refinery products apparently cannot be dismissed as a temporary situation which will correct itself without injury to the domestic markets in this country. Those closest to this situation are inclined to the belief that it represents a gradual shifting in sources of supply in foreign consuming markets which is permanent in character which means that refiners in this country must adjust their operations to a continued reduction in export gasoline demand, taken over by foreign refiners more favorably located as to crude costs, manufacturing setup and marketing facilities. It is understood that certain angles of this situation now have the consideration of the Planning and Coordination Committee and Petroleum Administrative Board at Washington with the possibility that an effort will be made to secure the co-operation of foreign oil interests in establishing prices in line with the markets at coast points in this country.

Reduce Gasoline Output

Market observers agree that the gasoline production allocations announced at Washington for August if carried out should be of aid not only to the gasoline market but also some of the other products which are none too strong at this time due to the large current production. The Federal allocation for East Coast refiners of 6,142,000 bbls. of gasoline in August is a reduction of 430,000 bbls. under the July allocation. This means a reduction in crude runs to stills during August under July of approximately 35,000 bbls. daily and will place the East Coast operations under 500,000 bbls. of crude daily. It is conceded that reductions in gasoline inventories so far this summer have not been as great as they should have been and the reductions for August, it is hoped will aid in correcting this situation by September 1 which in turn will aid in the solution of the problem of gasoline stocks for the coming fall and winter months.

The operating refineries in this territory as of May 1, the latest available report of the Bureau of Mines are summarized in the following table:

EAST COAST REFINERY OPERATIONS
(Data in barrels)

	May	
Output—	1934	1933
Crude runs to stills	14,720,000	14,597,000
Gasoline	5,608,000	5,658,000
Kerosene	821,000	776,000
Gas oil and distillate	1,358,000	1,098,000
Residual fuel oils	3,764,000	4,001,000
Lubricants	749,000	713,000
Wax (pounds)	20,160,000	21,280,000
Coke (tons)	12,800	21,800
Asphalts (tons)	123,700	108,200
Road oils (tons)	158,000	122,000
Stocks end of months—		
Gasoline	17,498,000	16,770,000
Kerosene	1,194,000	1,380,000
Gas oil and distillate	2,368,000	2,871,000
Residual fuel oils	5,188,000	3,981,000
Lubricants	2,092,000	2,598,000
Wax (pounds)	42,890,000	34,443,000
Coke (tons)	13,400	30,000
Asphalts (tons)	124,900	100,000
Road oils (tons)	98,000	160,000

This table shows that May operations this year and last were on about the same basis so far as crude oil runs to stills were concerned. Gasoline yields from the crude decreased this year with increases in kerosene, gas oil and distillate. The increase in gas oil and distillate production in May this year is outstanding and is due to the increased demand of the past season and the expectation of heavy requirements for the coming year. It will be noted in the table that despite this increased production, stocks of gas oil and distillate on May 31 were less than on the same date in 1933. In contrast, the stocks of residual fuel oils which were low a year ago were 1,000,000 bbls. greater on May 31. Wax stocks again increased in May so that at the end of the month they were greater than on May 31, 1933. A year ago wax stocks were decreasing rapidly due to a heavy demand.

Coke Output Less

Among the lesser products, East Coast refiners are producing much less coke than they were in May, 1933, the May, 1934, production totaling less than 13,000 tons. This no doubt reflects the improved prices for residual oils which has meant that refiners have reduced their nonresiduum operations in favor of an operation in which they secure a commercial grade of fuel oil as a residual product. The demand for road oils has greatly increased at refineries in this territory. Refiners have increased their production with stocks much less than they were a year ago.

Prices

There have been rumors in the trade over the past few days to the effect that prices on Bunker C fuel and some of the lighter fuels would be reduced. The basis for this rumor apparently is the resistance of buyers to present prices and the substitution of coal and other fuels for oil. In the residual fuels it is said the threat of coal substitution has been especially marked. This is becoming increasingly important as contracts come up for renewal. When spot prices were advanced last year and early this year, many buyers were not concerned because they were buying their supplies on old contracts which were substantially under the new open market prices. For instance, in the case of Bunker C fuel oil which has had an open market posting of $1.30 per barrel for several months, many marine and industrial buyers have been buying their supplies on old contracts as low as 75 cents per barrel. While some of these buyers have entered into new agreements at higher prices, others have not.

Largely the same situation exists in the case of gas oils and the various grades of distillate. Large quantities of these products are usually bought from Gulf Coast refiners in tanker lots for distribution in this territory. The closing of these contracts has been held up this year due to the uncertainty regarding prices. This uncertainty is reflected in the tank car market of this section.

Another disturbing factor has been the recent weakness in the Gulf Coast fuel markets. Prices are lower on tanker shipments for the residual and overhead oils. Due to this situation the question has

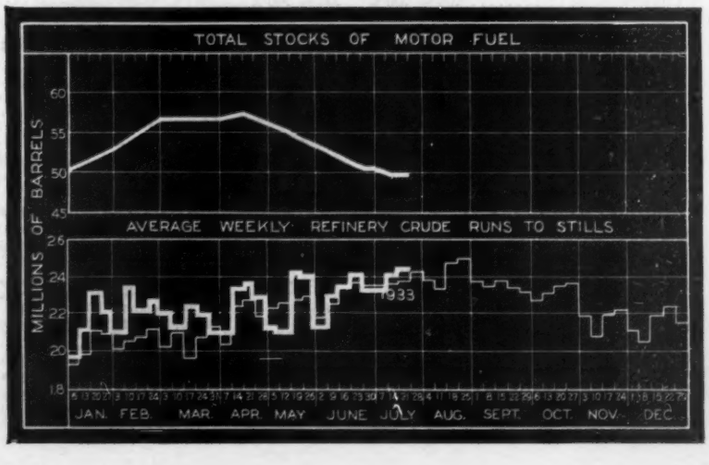
(Continued on Page 64)

American Petroleum Institute Weekly Refinery Statistics

Week Ending July 21, 1934

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	494,000	15,149,000	10,297,000
Appalachian	93.3	106,000	1,554,000	1,048,000
Indiana, Illinois, Kentucky	94.6	346,000	7,546,000	3,961,000
Oklahoma, Kansas, Missouri	83.7	257,000	4,956,000	3,498,000
Inland Texas	47.6	104,000	1,133,000	1,553,000
Texas Gulf	97.5	504,000	4,018,000	7,805,000
Louisiana Gulf	96.4	96,000	1,374,000	1,789,000
North Louisiana and Arkansas	83.7	59,000	245,000	534,000
Rocky Mountain	66.7	39,000	854,000	624,000
California	96.9	426,000	12,352,000	78,099,000
Total United States	89.7	2,431,000	49,181,000	109,208,000

Note: Finished motor stocks shown in graph and in table include those at refineries, at bulk terminals and in pipe lines, but do not include 5,000,000 to 7,000,000 bbls. of unfinished gasoline which could be reprocessed quickly.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

Quotations are exclusive of the Federal tax of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	July 24		July 17	
U. S. Motor grades:				
Below 60 octane	.03⅞	.04⅛	.03⅞	.04⅛
60-64.9 octane	.04⅛	.04⅜	.04⅛	.04⅝
65-70 octane	.04⅞	.05	.04¾	.04⅞
60-62 400 grades:				
Below 60 octane	.03⅞	.04⅛	.03⅞	.04⅛
60-64.9 octane	.04⅛	.04¾	.04⅛	.04¾
65-70 octane	.05	.05¼	.04⅞	.05⅛
64-66 375	.04⅛	.04⅝	.04⅛	.04⅝
68-70 360	.04⅝	.04½	.04¼	.04½
NORTH TEXAS—				
U. S. Motor grades:				
Below 60 octane	.03¾	.03⅞	.03¾	.03⅞
60-64.9 octane	.04⅜	.04½	.04⅝	.04½
65-70 octane	.04⅝	.04⅞	.04½	.04¾
60-62 400	.03⅞	.04	.03⅞	.04
64-66 375	.04		.04	
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04⅛	.04¼	.04⅛	.04¼
60-64.9 octane	.04⅞	.05	.04⅞	.05
65-70 octane	.05¼	.05⅜	.05¼	.05¼
60-62 400	.04¼	.04⅜	.04¼	.04⅜
68-70 360	.04⅜	.04⅝	.04⅜	.04½
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 60 octane	.04⅛	.04¼	.04⅛	.04¼
60-64.9 octane	.04⅞	.05	.04⅞	.05
65-70 octane	.05¼	.05⅜	.05⅛	.05¼
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 60 octane	.03¾	.04	.03⅞	.04
60-64.9 octane	.04½	.04¾	.04⅝	.04¾
65-70 octane	.04¾	.05	.04⅞	.05
60-62 400	.03⅞	.04	.03⅞	.04½
64-66 375	.04½	.04¼	.04½	.04¼
68-70 360	.04⅜	.04½	.04⅜	.04½
Aviation fighting grade	.05⅛	.05¼	.05	.05¼
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.05⅝	.05¾	.05⅝	.05¾
60-64.9 octane	.06⅜	.06⅝	.06½	.06⅝
65-70 octane	.06¾	.06⅞	.07	.07⅛
68-70 350	.06¼		.06½	
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07	.08	.07	.08
58-60 400	.07¾	.08¾	.08	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York	.06	.06¼	.06	.06¼
Baltimore	.06	.06¼	.06	.06¼
U. S. Motor, 60-64 octane:				
*New York (Bayonne)	.06¼	.06½	.06¼	.06½
Philadelphia	.06¼	.06½	.06½	.06¾
Boston	.06¼	.0670	.0645	.0670
Baltimore	.06¼	.06½	.06¼	.06½
Charleston, S. C.	.06¼	.06½	.06¼	.06½
U. S. Motor, 65 and above:				
*New York (Bayonne)	.06½	.06¾	.06½	.06¾
Philadelphia	.06½	.06¾	.06¾	
Boston	.0650	.0690	.0670	.07
Baltimore	.06½	.06¾	.06½	.06¾
Charleston, S. C.	.06½	.06¾	.06½	.06¾

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04⅞	.05⅛	.04⅞	.05⅛
60-64.9 octane	.05⅛	.05⅜	.05⅛	.05⅜
65 octane and higher	.05⅜	.05⅝	.05⅜	.05⅝

Naphthas

	July 24		July 17	
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05⅜	.05½	.05⅜	
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.03¾	.04	.04	.04¼
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p.-250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 140 i.b.p.-200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 200-300 i.b.p.-415 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	July 24		July 17	
Grade 26-70	.03		.02½	
Grade 18-55	.03⅜	.03½	.03	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03⅝		.03¼	.03½
11 lb. v.p. (max.)	.03⅜	.03¾	.03½	
NORTH TEXAS—				
Grade 26-70	.03		.02⅜	
Grade 18-55	.03⅜	.03½	.02⅞	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03⅝		.03⅜	
11 lb. v.p. (max.)	.03⅜	.03¾	.03⅝	
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.03⅜		.02⅞	
CALIFORNIA—				
75-85 375	.06	.06¾	.06	.06¾

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	July 24		July 17	
41-43	.03½	.03⅝	.03½	.03⅝
42-44	.03⅝	.03⅞	.03⅝	.03⅞
NORTH TEXAS—				
40-41	.02⅞	.03⅛	.02⅞	.03⅛
41-43	.03	.03¼	.03	.03¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03¼		.03¼	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03⅜	.03½	.03⅜	.03½
PENNSYLVANIA (inland refineries)—				
45	.04⅜	.04½	.04⅜	.04½
46	.04½	.04¾	.04½	.04¾
47	.04⅝	.04⅞	.04⅝	.04⅞
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03¼	.03¼	.03½	.03¼
42-44	.03⅜	.03½	.03⅜	.03½
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04¾	.05¼	.04¾	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼	.05½	.05¼	.05½
GULF COAST (domestic)—				
41-43	.04½	.04⅝	.04½	.04⅝

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	July 17		July 24	
Breeze (screenings)	5.00		5.00	
Pile run	5.00		5.00	
Direct from still	6.00		6.00	
Lump and egg	7.00	8.00	7.00	8.00

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	July 24		July 17	
32-36 straw	.02½	.02⅝	.02½	.02⅝
36-38 straw	.02⅝	.02⅞	.02½	.02⅝
38-40 straw	.02⅝	.02½	.02⅜	.02½
38-40 prime white	.02⅝	.02¾	.02⅝	.02¾
NORTH TEXAS—				
38-40 straw	.02⅝	.02¾	.02⅝	.02¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.02⅞	.03	.02⅞	.03
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.02⅝	.02¾	.02⅝	.02¾
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02¼	.02½	.02⅜	.02½
38-40 straw	.02¼	.02½	.02⅜	.02⅝
38-40 prime white	.02⅜	.02½	.02½	.02⅝
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05¼	.05½	.05¼	.05½
32-36 (No. 2 grade)	.04¾	.05	.04¾	.05
21 industrial (No. 4 grade)	.04½	.05	.04½	.05

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gallon; Diesel and fuel oils per barrel)

OKLAHOMA (Group 3)—	July 24		July 17	
32-36 gas oil cracking stocks	.02⅛	.02¼	.02⅛	.02¼
U.G.I. gas oil	.02	.02¼	.02⅛	.02⅜
32-36, zero to 15 gas oil	.02⅜	.02½	.02⅜	.02½
28-30 No. 3 burner oil	.95	1.00	.95	1.00
28-30, zero to 10 fuel oil	.90	.95	.90	.95
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.75	.80	.75	.80
20-22 fuel oil	.67½	.70	.67½	.70
Below 16 fuel oil	.62½	.65	.62½	.65
NORTH TEXAS—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
22-26 fuel oil	.67½	.70	.67½	.70
Below 20 fuel oil	.57½	.62½	.57½	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
32-36 gas oil, zero	.02½	.02⅝	.02½	.02⅝
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02⅝	.02½	.02⅝
32-36 gas oil	.02⅜	.02½	.02⅜	.02½
14-16 fuel oil	.70	.75	.70	.75
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.02⅛	.02¼	.02⅛	.02¼
28-30 zero to 10, fuel oil	.97½	1.00	.97½	1.02½
26-28 zero to 10, fuel oil	.87½	.90	.87½	.92½
22-26 zero to 10, fuel oil	.77½	.80	.77½	.82½
18-22 zero to 10, fuel oil	.62½	.65	.62½	.67½
Below 18 fuel oil	.55	.57½	.57½	.62½

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.04		.04	
CALIFORNIA—				
30-34 gas oil per bbl.	1.10	1.25	1.10	1.20
27 plus Diesel	1.05	1.20	1.10	1.20
27 plus Diesel (bunkers)	1.12½	1.20	1.13	1.25
12-16 (bunker at tidewater.	.82½	.85	.82	.85
10-16 (cargo lots)	.66	.75	.65	.75
12-17 (tank cars)	.60	.75	.60	.75
10-17 (inland refineries)	.55	.65	.55	.65
GULF COAST—				
28-30 gas oil	.03½	.03¾	.03½	.03¾
28-30 Diesel (bunkers)	1.80		1.80	
Bunker C (bulk cargoes)	.95	1.00	.95	1.00
Bunker C (bunkers)	1.05	1.10	1.05	1.10
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04½	.05	.04½	.05
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.30		1.30	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	July 24		July 17	
Zero to 10 Cold Test:				
150-3	.10		.10	
180-3	.11¼		.11¼	
180-4	.10¾		.10¾	
200-3	.11¾		.11¾	
200-4	.11¼		.11¼	
240-3	.13¾		.13¾	
240-4	.13¼		.13¼	
280-3	.14¾		.14¾	
280-4	.14		.14	
300-3½	.15¼		.15¼	
400-4	.17¼		.17¼	
100-2 paraffin oil	.05¾		.05¾	
15-30 Cold Test:				
200-3	.10¾		.10¾	
200-4	.10¼		.10¼	
240-3	.12¾		.12¾	
240-4	.12¼		.12¼	
280-3	.13¾		.13¾	
280-4	.13		.13	
GULF COAST—				
Pale Oils:				
200-3	.07½		.07½	
300-3	.08	.08¼	.08	.08¼
500-3½	.09	.09¼	.09	.09¼
750-3½	.09½	.09¾	.09½	.09¾
1,200-3½	.10	.10¼	.10	.10¼
2,000-4	.10¼	.10½	.10¼	.10½
Red Oils:				
200-5-6	.06½		.06½	
300-5-6	.07	.07¼	.07	.07¼
500-5-6	.08	.08¼	.08	.08¼
750	.08½	.08¾	.08½	.08¾
1,200-5-6	.09	.09¼	.09	.09¼
CALIFORNIA—				
Pale Oils:				
100-2½-3	.23	.25	.23	.25
200-2½-3	.23	.25	.23	.25
300-3-3½	.23	.25	.23	.25
350-3-4	.23	.25	.23	.25
400-3-4	.23	.25	.23	.25
450-3-4	.23	.25	.23	.25
550-3-4	.23	.25	.23	.25
600-3-4	.23	.25	.23	.25
Red Oils:				
200-4-5	.23	.25	.23	.25
300-5-6	.23	.25	.23	.25
350-5-6	.23	.25	.23	.25
400-5-6	.23	.25	.23	.25

450-5-6	.23	.25	.23	.25
500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	.23	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVANIA—				
150 vis. at 70° F., 3 color; 400-405 flash:				
Zero pour test	.23½	.24	.25½	.26
10 pour test	.22½	.23	.24½	.25
15 pour test	.22	.22½	.24	.24½
25 pour test	.21½	.22	.23	.23½
180 vis. at 70° F., 3 color:				
25 pour test	.25	.25½	.26½	.27
200 vis. at 70° F., 3 color:				
Zero pour test	.30	.31	.31½	.32
10 pour test	.29	.29½	.30½	.32
15 pour test	.28½	.29	.30	.30½
25 pour test	.28	.28½	.29½	.30

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	July 24		July 17	
Bright Stocks:				
190-200 D	.23¾		.25¾	
150-160 D, 0-10	.21		.23	
150-160 D, 10-25	.20½		.22½	
150-160 25-40	.20		.22	
150-160 E	.20		.22	
Steam refined:				
630 light green (treated)	.13		.14½	
600 light green (untreated)	.06	.08	.07	.09
600 dark green (untreated)	.04½	.07	.05	.08
PENNSYLVANIA—				
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):				
10 pour test	.25½	.26	.26½	.27
15 pour test	.25	.25½	.26	.26½
20 pour test	.24½	.25	.25½	.26
25 pour test	.24	.24½	.25	.25½
Steam refined:				
600	.14	.14½	.15	.15½
650	.16½	.17	.18	.18½
600 Pennsylvania flash	.17½	.18	.19	.19½
630 Pensylvania flash	.22	.22½	.23½	.24
600 Warren E filtered	.17½	.18	.19	.19½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	July 24		July 17	
124-126 white crude scale	.03¼	.03⅜	.03¼	.03⅜
PENNSYLVANIA—				
122-124	.03	.0305	.0360	
124-126	.0315	.0320	.0365	
NEW YORK HARBOR—				
Wax (a.m.p.) in bags fully refined:				
120-122	.0420	.0430	.0420	.0430
123-125	.0440	.0460	.0440	.0460
125-127	.0445	.0470	.0445	.0470
128-130	.0480	.0495	.0480	.0495
130-132	.05	.0510	.05	.0510
133-135	.0545	.0570	.0545	.0570
135-137	.0570	.0595	.0570	.0595
124-126 crude scale	.032	.0325	.03¼	.03½
Petrolatum in barrels in carload lots:				
Dark green	.01⅞		.01⅞	
Amber	.02⅞	.03	.02⅞	.03
Extra amber	.03⅛	.03¼	.03⅛	.03¼
Lily white	.06¾	.06⅞	.06¾	.06⅞
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾
CHICAGO (f.o.b. switching district)*—				
122-124 wax	.0490	.0500	.0490	.0500
125-127 wax	.0515	.0525	.0515	.0525
127-129 wax	.0530	.0540	.0530	.0540
130-132 wax	.0590	.0600	.0590	.0600
132-134 wax	.0615	.0625	.0615	.0625

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	July 17		July 24	
U. S. Motor	.04½	.04¼	.04⅛	.04¼
60-62 400	.04¼		.04¼	
61-63 390	.04¾	.04½	.04¾	.04½
64-66 375	.04½	.04⅝	.04½	.04⅝
LOS ANGELES, CALIF.—				
U. S. Motor grades:				
53-55 octane	.04	.04¼	.04	.04¼
55-65 octane	.04¼	.04½	.04¼	.04½
65-67 octane	.04½	.04¾	.04½	.04¾
67-69 octane	.04¾	.05	.04¾	.05
Above 69 octane	.05	.05¼	.05	.05¼
58-60 400 endpoint	.04¾	.05½	.04¾	.05½

KEROSENE

GULF COAST—				
41-43 prime white	.04	.04⅛	.04	.04¼
41-43 water white	.04⅛	.04¼	.04⅛	.04¼
44 water white	.04¼	.04⅜	.04¼	.04⅜
LOS ANGELES, CALIF.—				
41-43 water white	.04¼	.04¾	.04¼	.04¾

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—				
Cylinder Stocks:				
600 Warren E	.25	.26	.26	.27
600 S.R. unfiltered	.22½	.23	.22½	.23
650 S.R. unfiltered	.25	.26	.25½	.26
600 flash S.R.	.26	.27	.26½	.27
630 flash S.R.	.30½	.31	.31	.32
Bright Stocks:				
8 color	.32	.33	.32	.33
6½ plus color, in dilution	.30	.32	.30	.32

NEUTRAL OILS

200-3 color	.34	.35	.34	.35
150-3 color	.28	.29	.28	.29

PARAFFIN WAX (Fully Refined)

NEW YORK (prices per pound)—				
120-122 a.m.p.	.0405	.0425	.0405	.04¼
123-125 a.m.p.	.0435	.0455	.0430	.0455
125-127 a.m.p.	.0440	.0465	.0440	.0465
128-130 a.m.p.	.04¾	.0490	.04¾	.0490
130-132 a.m.p.	.0495	.0505	.0495	.0505
133-135 a.m.p.	.0540	.0565	.0540	.0565
135-137 a.m.p.	.0565	.0590	.0565	.0590

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	4 Carson, Hutchinson, and Moore Counties, Texas	4 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas, and Louisiana	9 Gulf Coast, Texas, and Louisiana	10 Caddo Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.13	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1 14	1.02

Note.—Effective June 1, 1934, Texas Co. purchases Texas Panhandle crude on a sweet crude and sour crude basis. Panhandle sweet crude is paid for on a basis of the Gray County prices posted above, and Panhandle sour crude is paid for on a basis of Carson and Hutchinson County prices posted above.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 25°, 76 cents; 25-25.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 29°, 84 cents, excepting Phiitex Oil Co., which begins with below 31° at 88 cents.

Column 1.—Effective September 29, Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma and Kansas; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phiitex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; Oct. 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2.—Effective September 29, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3.—Effective September 29, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.02. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day Phiitex Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phiitex Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Colum 6.—Effective September 29, by Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30, by Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7.—Effective September 29, by Stanolind Oil & Gas Co.

Column 8.—Effective September 29, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana: 30-30.9°, 84 cents with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 26°, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 28° 76 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 20°, 80 cents, with 2 cents added for each degree upward to 34° and over at $1.10.

Column 9.—Effective September 30, Texas Co. (On September 29, Texas Co. had posted a schedule of 2 cents on each degree, but changed it on September 30.)

Column 10.—Effective September 29, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 47)

Crude Oil Prices

Oklahoma, Kansas, North Central, and East Central Texas

East Texas $1.00
Stratman, Kans. (Sept. 29, 1933) 1.03
Corsicana (heavy) (June 17, 1933)* ..... .30
Other fields ..... (See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.
*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard Glasscock, Mitchell (Sept. 29, 1933) ..... $.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties. See gravity table

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers.... (See gravity table)
Tomball (see note)* $1.15
Livingston (Sept. 29, 1933)† 1.00
Cleveland (Jan. 11, 1934) 1.00
Greta (Sept. 29, 1933) ..... .85
Refugio, light ..... (See gravity table)
Refugio, heavy (Sept. 29, 1933)‡ ..... .85
Markham and High Island ..... (See Gulf Coast gravity table)
Conroe ..... (See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2, by Magnolia Petroleum Co., and November 10, by Stanolind Oil & Gas Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co. Cleveland (Liberty County), posted by Magnolia Petroleum Co.

South Central and Southwest Texas

(See note below table)

Darst Creek ..... $.87
Mirando ..... .80
Luling (Sept. 29, 1933) ..... .75
Pettus 1.05
Salt Flat ..... .87
Lytton Springs (Sept. 29, 1933) ..... .95
Duval County (Sept. 29, 1933) ..... .80
Saxet ..... .85

Note—Effective on September 29 by Humble Oil & Refining Co., in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co.

(Continued on Page 47)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

July 24, 1934

Taxes

The gasoline quotations given in the following tables include the 1 cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon, or 3 cents a gallon off retail prices, is permitted for purchases running between 2,000 and 10,000 gallons a month, and 2 cents a gallon off tank wagon, or 4 cents a gallon off retail prices, for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	18.0	20.0	6.0	10.0
Pueblo	18.0	20.0	6.0	13.0
Grand Junction	19.0	21.0	6.0	15.0
Casper, Wyo.	18.0	20.0	5.0	11.5
Cheyenne	18.0	20.0	5.0	13.0
Butte, Mont.	21.0	23.0	7.0	17.5
Billings	22.5	24.5	6.0	16.5
Helena	23.0	25.0	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	19.0	21.0	5.0	16.0
Boise, Idaho	22.5	24.5	6.0	18.0
Twin Falls	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.0	20.0	*7.0	13.0

*One-cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	15.2	17.2	4.0	9.7
Decatur, Ill.	16.0	18.0	4.0	10.2
E. St. Louis	16.0	14.5	4.0	9.5
Joliet	14.2	16.2	4.0	10.2
Peoria	14.7	13.9	4.0	10.2
Quincy	16.6	17.1	4.0	10.0
Davenport, Ia.	16.6	17.1	4.0	10.1
Des Moines	14.0	17.1	4.0	8.0
Mason City	16.6	17.1	4.0	9.2
Sioux City	12.9	12.9	4.0	9.7
Duluth, Minn.	17.2	19.2	4.0	10.4
Mankato	16.8	16.8	4.0	10.2
Minneapolis	15.4	17.4	4.0	10.4
LaCrosse, Wis.	18.2	20.2	4.8	10.8
Green Bay	17.7	19.7	5.0	10.2
Milwaukee	17.1	19.1	5.0	9.7
Madison	17.4	19.4	5.0	9.9
Detroit, Mich.	16.0	18.0	4.0	10.5
Grand Rapids	16.7	17.7	4.0	10.2
Saginaw	17.0	18.0	4.0	10.5
Evansville, Ind.	17.7	19.7	5.0	10.0
Indianapolis	17.9	19.4	5.0	10.2
South Bend	18.2	20.2	5.0	10.5
Fargo, N. Dak.	17.9	19.9	4.0	12.1
Huron, S. Dak.	18.8	20.8	5.0	11.4
Sioux Falls	18.4	20.4	5.0	10.9
Kans. C., Mo.*	15.0	15.0	4.0	9.2
Springfield	15.1	17.1	3.5	9.1
St. Louis	15.0	17.0	3.5	8.7
St. Joseph*	15.3	15.0	4.0	8.8
Wichita, Kans.	14.6	16.6	4.0	10.2
Bartlesville, Ok.	16.0	18.5	5.0	10.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Discounts to dealers, effective March 1, 1934: Undivided accounts, 4 cents a gallon on Red Crown Ethyl and Standard Red Crown, divided accounts, 3½ cents a gallon on Red Crown Ethyl and Standard Red Crown.

Stanolax Furnace Oil in Chicago

Effective June 27, 1934, f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents. Effective May 16, 1934, No. 2 (30-34 stw. zero), under 150 gallons, 7⅝ cents; No. 3 (23-26 zero), under 150 gallons, 7⅛ cents; No. 4 (13-16 zero), under 400 gallons, 6 cents; viscosity of No. 4, 90-115 at 100° F.; No. 5, under 400 gallons, 5⅝ cents. For deliveries above stated quantities deduct 1 cent.

Naphtha

	Tank wagon*
Oleum spirits	18.0
V.M.&P. naphtha	18.0
Cleaners' naphtha	18.0
Stanisol	18.0

*Prices include 3-cent Illinois tax, but not 1-cent Federal tax.

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	19.0	22.0	7.0	14.5
Augusta	20.0	22.0	7.0	14.5
Macon	20.0	22.0	7.0	14.5
Savannah	20.0	22.0	7.0	14.0
Birm'ham, Ala.	21.5	23.5	8.0	13.0
Mobile	20.5	22.5	8.0	12.0
Montgomery	22.5	24.5	8.0	15.0
Jackson, Miss.	19.5	21.5	7.0	13.0
Vicksburg	16.5	18.5	7.0	14.0
Jack'ville, Fla.	20.0	22.0	8.0	11.5
Miami	20.0	22.0	8.0	13.5
Pensacola	17.0	19.0	8.0	13.5
Tampa	20.0	22.0	8.0	12.5
Lexington, Ky.	18.5	20.5	6.0	11.5
Covington	17.5	19.5	6.0	11.5
Louisville	18.0	20.0	6.0	11.0
Paducah	16.0	18.0	6.0	11.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	17.0	19.0	5.0	8.0
Fort Worth	17.0	19.0	5.0	8.0
Houston	16.0	18.0	5.0	8.5
San Antonio	16.0	18.0	5.0	8.5
El Paso	18.0	20.0	8.0	11.0
Muskogee, Ok.	16.0	18.0	5.0	7.5
Okla. City	15.0	17.0	5.0	8.5
Tulsa	16.0	18.0	5.0	8.5
Ft. Smith, Ark.	16.6	18.6	5.0	8.0
Little Rock	16.5	18.5	7.5	9.0
Texarkana	17.0	19.0	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	19.0	16.5	4.0	10.0
Newark	18.5	17.8	4.0	9.5
Annapolis, Md.	19.6	19.1	5.0	10.0
Baltimore	19.1	13.6	5.0	9.5
Cumberland	20.6	20.1	5.0	12.7
Wash'g'n, D. C.	17.3	16.8	3.0	11.5
Danville, Va.	21.7	21.2	6.0	12.9
Norfolk	20.2	19.7	6.0	11.3
Petersburg	21.0	20.5	6.0	11.4
Richmond	20.6	20.1	6.0	11.7
Roanoke	21.8	21.3	6.0	12.9
Charls'n, W. Va.	20.0	19.5	5.0	12.6
Parkersburg	19.3	18.8	5.0	11.2
Wheeling	20.0	19.0	5.0	12.2
Charlotte, N. C.	23.4	22.9	7.0	13.5
Hickory	23.7	23.2	7.0	13.7
Mt. Airy	23.7	23.2	7.0	13.8
Raleigh	23.2	22.7	7.0	13.3
Salisbury	23.5	23.0	7.0	13.6
Charleston, S. C.	21.2	20.7	7.0	11.2
Columbia	23.0	22.0	7.0	13.3
Spartanburg	23.4	22.4	7.0	13.5

Price basis to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	17.0	17.0	5.0	9.0
McCook	17.7	18.4	5.0	6.9
Norfolk	17.0	17.0	6.0	9.0
North Platte	17.8	18.0	5.0	9.0
Scottsbluff	18.3	18.3	5.0	9.0

Note—Discount to dealers, including any rentals under lease and agency agreements: Undivided accounts, Standard Red Crown and Red Crown Ethyl Gasoline 4 cents, Reliance (third brand) 3 cents, under service station price. Divided accounts, Standard Red Crown Ethyl Gasoline 3½ cents, Reliance (third brand) 2½ cents, under service station price. Discounts to consumers covered only by form CD-1, official commercial consumer contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	20.3	15.0	*7.0	†10.0
Baton Rouge	20.2	19.7	6.0	†12.0
Alexandria	21.1	19.0	*7.0	†10.0
Lafayette	21.3	20.8	*7.0	†12.0
Lake Charles	21.2	20.7	*7.0	†12.0
Shreveport	19.0	15.0	6.0	†12.0
Knoxville Tenn	24.7	21.5	8.0	13.0
Memphis	23.1	21.5	8.0	10.5
Chattanooga	24.5	21.5	8.0	12.0
Nashville	24.0	21.5	8.0	11.0
Bristol	24.5	21.6	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Price bases to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at dealer price less one-half cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank wagon†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
San Francisco	17.5	19.5	4.0	12.5
Los Angeles	15.5	17.5	4.0	12.5
Fresno, Calif.	18.0	20.0	4.0	14.0
Phoenix, Ariz.	20.0	22.0	6.0	‡16.0
Reno, Nev.	20.0	22.0	5.0	15.5
Portland, Ore.	20.0	22.0	6.0	13.5
Seattle, Wash.	20.0	22.0	6.0	13.5
Tacoma	20.0	22.0	6.0	13.5
Spokane	23.0	25.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5 cents state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Philadelphia, Pa.	15.5	17.5	4.0	10.0
Pittsburgh	16.0	18.0	4.0	10.0
Allentown	15.5	17.5	4.0	10.0
Erie	16.0	18.0	4.0	9.0
Scranton	16.0	18.0	4.0	10.0
Altoona	16.0	18.0	4.0	10.0
Dover, Del.	16.0	18.0	4.0	10.0
Wilm'ngton	15.5	17.5	4.0	9.0
Springf'd, Mass.	15.5	17.5	4.0	8.75
Worcester	15.5	17.5	4.0	9.0
Hartford, Conn.	15.0	17.0	3.0	8.5
New Haven	13.0	15.0	3.0	8.5
Providence, R.I.	8.0	10.0	3.0	8.5

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

New York and Part of New England

STANDARD OIL CO. OF NEW YORK

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16.5	17.5	4.0	9.0
Met. New York	16.5	17.5	4.0	8.5
Buffalo	17.5	18.5	4.0	9.0
Rochester	17.0	18.0	4.0	9.25
Syracuse	17.0	18.0	4.0	9.25
Boston, Mass.	15.5	16.5	4.0	8.5
Portland, Me.	18.2	19.2	5.0	8.75
Manch't'r N. H.	19.2	20.2	5.0	9.0
Burlington, Vt.	19.8	20.8	5.0	9.75

Commercial consumers allowed 2 cents discount below service station prices in accordance with CD-1 of oil industry's code.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.	†21.5	24.5	6.0	17.5
Toronto, Ont.	†21.5	24.5	6.0	17.5
Brandon, Man.	30.1	33.3	7.0	21.5
Winnipeg, Man.	28.7	31.7	7.0	20.3
Regina, Sask.	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.8	34.8	6.0	24.2
Edmonton, Alta.	31.2	34.2	6.0	23.7
Calgary, Alta.	28.5	31.5	6.0	21.0
Vancouver, B.C.	†28.0	31.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. John, N.B.	27.5	31.5	8.0	21.0
Halifax, N. S.	26.0	30.0	6.0	21.0

Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all dealers 4 cents off service station price. All other provinces, open dealers 3 cents off service station price and 1 cent additional to 100 per cent accounts.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of Louisiana June 29 advanced station gasoline 2 cents in Nashville; July 10, advanced it 1 cent further; July 12, advanced tank wagon gasoline 2 cents. June 20, advanced station gasoline 2 cents in Memphis; July 10, advanced it 1 cent further. June 29, advanced station gasoline 1 cent in Knoxville; July 10, advanced it 1 cent further; July 29, advanced station gasoline 1 cent in Chattanooga; July 11, advanced it 1 cent further; July 12, reduced tank wagon gasoline 1 cent. July 1, advanced station gasoline 4.3 cents in Bristol. July 5, reduced station gasoline 1 cent in Shreveport.

Continental Oil Co. July 13 advanced tank wagon and station gasoline one-half cent in Salt Lake City. July 14, advanced tank wagon and station gasoline 1½ cents in Great Falls. July 16, advanced tank wagon and station gasoline one-half cent in Helena. July 16, advanced tank wagon and station gasoline 1½ cents in Billings.

Standard Oil Co. of New Jersey July 17 advanced station gasoline .4 cent in Charlotte. Same date, advanced station gasoline .2 cent in Hickory and Raleigh and 2 cents in Salisbury.

Atlantic Refining Co. July 14 reduced tank wagon and station gasoline 3½ cents in Providence.

Standard Oil Co. of New York July 10 reduced tank wagon and station gasoline 1½ cents in Boston; July 23, advanced them one-half cent. July 17, advanced tank wagon and station gasoline 1 cent in Rochester.

Magnolia Petroleum Co., July 18, advanced tank wagon and station gasoline .6 cent in Fort Smith.

SPANISH OIL MONOPOLY

Effective August 1, the Spanish petroleum monopoly, which has been in operation for several years, will purchase for use as fuel in internal combustion engines all alcohol obtained in the distillation of grape residue. The amount purchased is not to exceed 175,000 hectoliters (approximately 670,000 bbls.) yearly. The monopoly will pay 1.35 pesetas per degree per hectoliter. The monopoly can dispose of it by blending with gasoline or sell it direct for use as motor fuel.

The government report just released covering 1933 operations of the monopoly shows that Russia supplies 53 per cent of the petroleum products imported into Spain, United States 21 per cent, and Rumania 10 per cent. The average price of gasoline to consumers during the year was 0.76 pesetas per liter. Two 8,000-ton tankers were completed during the year and since the close of the year additional tankers have been placed in service so that at this time the monopoly has 12 high-sea ships with a total tonnage of 91,500 tons in addition to the small coasting and bungering boats. The monopoly in 1933 showed a net profit of 223,685,814 pesetas.

VENEZUELA PRODUCTION

With a production of 11,200,000 bbls. in June, the crude oil production of Venezuela the first six months of 1934 totaled 65,300,000 bbls. according to official reports. This is an increase of 9,400,000 bbls. or 17 per cent over the 55,900,000 bbls. production for the first six months of last year. The production in June of last year was 9,350,000 bbls.

FOR THE 4TH successive year the Navy Department has awarded Sinclair the annual contract for lubricating the Navy on the Atlantic seaboard. The award also includes other Government departments in 42 states.

SINCLAIR DEALER shows a customer how his patented can-opener wrecks the Sinclair Tamper-Proof can to foil oil bootleggers. Sinclair distributors, jobbers and dealers report large sales increases with these cans. For full information, write Sinclair Refining Company (Inc.), 45 Nassau St., New York.

ONE GALLON of the powerful new Sinclair H-C Gasoline has enough energy, if fully utilized, to hoist a 37,000-ton battleship 1⅓ feet. Automobile road tests show that the new H-C gives 15% to 20% more *smooth* power. Aggressive Sinclair advertising is stimulating dealer sales throughout the country.

U.S.S. MISSISSIPPI loading Sinclair lubricants from Sinclair lighter at New York after the Presidential review. The Navy has also awarded Sinclair a contract for a million dollars worth of fuel oil.

SINCLAIR SOLVES a tough lubrication problem on Texas highways. For the 3rd successive year the State of Texas has awarded its lubricating and gasoline contract to Sinclair. A million dollars worth of products is included.

BEDTIME ALOFT on the world's first completely convertible sleeper plane. For the 2nd successive year American Airlines have used Sinclair products. National prestige—that's one reason why the Sinclair franchise is so valuable.

NEWS FOR PETROLEUM REFINERS

Tide Water Will Build Large Boston Terminal

NEW YORK, July 21.—The largest marine terminal to be built in this section of the country in several years will be erected on the Chelsea River in Boston harbor by the Tide Water Oil Co., according to an announcement by Edward L. Shea, president. The site consists of 45 acres and when finally completed the terminal will have storage facilities totaling 43,000,000 gallons of all grades of refinery products.

Work is to start immediately on the erection of eight storage tanks with a capacity of 21,500,000 gallons, with warehouses, garages, loading facilities and a dock for mooring of the company's fleet of ocean tankers and for barges which will be used for local deliveries. It is expected that the entire terminal will be completed by January.

"The development of the Boston terminal follows a study of several years to discover and adopt the most economical method of transporting gasoline and other petroleum products into the New England market," Mr. Shea said. "This particular location has the advantages of deep-water for the docking of our largest ocean-going tankers, excellent rail facilities for shipments and receipts by tank car, and the availability of the new highway running directly north from the center of Boston to points along the eastern New England shore. The latter will be used extensively for trucking operations. Contractors will draw upon local communities for the necessary labor.

"The project is another step by Tide Water to round out its program of developing water terminals along the Atlantic Coast which has been in progress for the last eight years. Through the chain terminals and its marine fleet, which in 14 years has grown from one small coastwise vessel of 6,500-bbl. capacity to 14 large vessels of 904,000 bbls. capacity, the company will have the lowest cost transportation facilities possible for distribution of its products. The new terminal will be one of the most modern fireproof plants of the kind in the world."

TAX RETURNS INCREASE

Oklahoma gasoline tax collections for the first six months of 1934 showed an increase in accordance with the national trend. The percentage gain in the state was 13.6 per cent, while that throughout the United States was 10.86. Reports of the fiscal year ending June 30, 1934, showed the following statistics in Oklahoma: Gasoline inspected, 286,387,091 gallons; taxes collected, $10,512,980.

GASOLINE TAX OPPOSED

SPRINGFIELD, Mo., July 21.—A special election for a referendum on the 1-cent-a-gallon local tax on gasoline has been asked by Springfield operators of service stations and bulk plants. The city tax recently applied to balance the budget drives trade to the city limits. It is expected that the voters of Springfield will soon decide the issue at the polls.

EAST TEXAS GROUP MEETS

KILGORE, Tex., July 21.—At a meeting of the board of directors of the Independent Refiners' Association of East Texas, J. M. Deavenport was elected secretary of the association. Miss Juanita Hardy, who has been acting secretary since the resignation of Frank C. Adams, was named assistant to Deavenport. A program of work for the remainder of the season was adopted to be submitted at the meeting in Gladewater the following Monday.

Marketers in Chicago Will Try Plan of California Cartel Within Near Future

CHICAGO, July 23.—Metropolitan Chicago will be placed under an oil marketing cartel or agreement similar to that recently set up on the Pacific Coast under terms of a plan now coming to a head and backed by numerous major oil company executives. At a mass meeting on the night of July 23 the 1,800 members of the Chicago Service Station Owners Association and allied organizations were to pass on the project. Favorable action at that time was expected to assure the success of the plan.

This is the latest idea for solution of marketing conditions in an area that has repeatedly been called the worst oil marketing spot in the United States. A preliminary agreement has been drawn up by attorneys for various units involved and is now receiving careful consideration by large and small operators.

The Chicago Service Station Owners Association and its related groups compose the key to this situation in view of the fact that their membership includes about 90 per cent of all the independent station operators in the area. Leaders in that organization are friendly to the plan. Most major companies are expected to cooperate in its promotion and all majors to co-operate if it reaches the final stages.

The basic idea in this program is an agreement by all supplying companies, all retailers, all brokers and all other factors in the marketing situation here, with the department of justice. This agreement provides that in the event of a violation of the petroleum code, operation of the contracts involved are to be suspended for a period of 30 days on the first offense and that all other suppliers will undertake to withhold from relations with the violator. More stringent action would be contemplated on a second violation.

The plan is important for its broad effect on the local market but its real significance might be even greater. This is one of the largest individual oil marketing centers in the world. In addition, it occupies a highly strategic and psychological position with reference to the tank car market for gasoline and other refined products. Accordingly, it exercises an indirect but potent influence on crude and thus on the whole price structure of the industry.

Investigation of Fuel Oil Prices Ordered by Ickes

A thorough investigation into prices being charged for fuel and heating oils was ordered today by Secretary of the Interior Harold L. Ickes, the Oil Administrator, as a result of information collected in recent weeks by the Petroleum Administrative Board, indicating general increases. In addition to instructing the board to look into prices, Administrator Ickes ordered an inquiry into charges that some practices of the distributing companies tended to create a monopoly. The charges did not specify what practices are monopolistic. The board was instructed to hear the specific charges and investigate them.

The inquiry was considered necessary by the oil administration to protect the interests of household and industrial consumers of fuel and heating oils. The Planning and Coordination Committee, representing the oil industry under the oil code, will present an extensive brief for the industry.

WILL BURN CRUDE OIL

The new Zeppelin LZ-129 which has been under construction in Germany for some time will be powered with 300-horsepower motors using crude oil as fuel. Tests of the motors using the crude oil have been completed and satisfactory results were obtained. It is claimed that the use of the crude oil will increase the carrying capacity of the airship. The latter will be completed in a few months and placed in regular passenger and mail service between Germany and South American countries.

SUN OIL SERVICE EXPANDED

Announcement was made last week of the appointment of Thomas Pinckney as district manager of the Richmond branch of the Sun Oil Co. This is in line with an expansion program in Virginia. The plan calls for 12 new service stations, four of which are completed, and a storage tank to be erected in Fulton, where shipments can be received by water.

WELLSVILLE PLANT TO USE GAS

The Sinclair Refining Co. has completed a large gas well in Willing Township, Allegheny County, New York. The initial gas flow of the well which was drilled in wildcat territory was around 8,000,000 feet of gas daily at a depth of 4,852 feet. According to present plans the well will be connected to the company's refinery at Wellsville, N. Y., and the gas used as fuel. The refinery has a crude oil capacity of 10,000 bbls. daily and is complete in its operations.

SAMPLE RULE INTERPRETED

The Marketing Committee "D" recommends the promulgation of an interpretation of Article 5, Rule 17, as follows:

Article 5, Rule 17

"Permission is hereby granted to refiners and compounders of lubricating oil to give not to exceed a 1-gallon sample of lubricating oil to wholesalers, distributors or jobbers who are prospective customers under the following conditions:

1. The sample must be for test purposes only.
2. Such sample may be given only when the wholesalers, distributors or jobbers are not now marketing, and have not marketed, the particular brand of oil for at least one year."

MAY PETROLEUM IMPORTS

Imports of crude oil for the month of May, 1934, totaled 3,192,543 bbls. Other petroleum imports consisted mainly of roughly finished products. The statistics are furnished by the Department of Commerce.

Imports—	Bbls.
Petroleum, crude	3,682,543
Fuel oil including topped petroleum	421,211
Unfinished distillates n.e.s.	25,742
Liquid derivatives of pet., n.e.s.	8,392
Gasoline and other motor fuel	20
Illuminating oil (kerosene)	814
Lub oils, including paraffin oil	402
	Lbs.
Paraffin and paraffin wax	2,654,955

MOVE GENERAL OFFICES

The Anderson-Prichard Oil Corp., of Oklahoma City, Okla., has moved its general offices from the Colcord Building to the Ramsey Tower. There it will occupy two floors of air-conditioned offices.

Refinery Review Board Urges Complete Reports

The Refinery Board of Review has announced that its next meeting will convene on August 6. All appellants are requested by the board to follow the rules of procedure set up to govern appeals, and to submit, with the appeal brief, all pertinent data including shipments, production and end of month stocks of finished and unfinished gasoline for a period of at least one year prior to the current month. Figures for July and August may be arrived at by estimate. It was stressed by the board that appeals should be submitted at the earliest possible date, but in no event later than August 6.

The necessity for the inclusion of this factual data in the appeal is exemplified by a decision of the board which has just been released. It is the appeal of the Shamrock Oil & Gas Co. from the decision of the district allocating agency for district No. 5-A. The record discloses that no monthly reports of stocks, production or other data has been filed with the Planning and Coordination Committee since January, 1934, nor was any factual data relative to its stock position, past performance, shipments and production filed with the appeal.

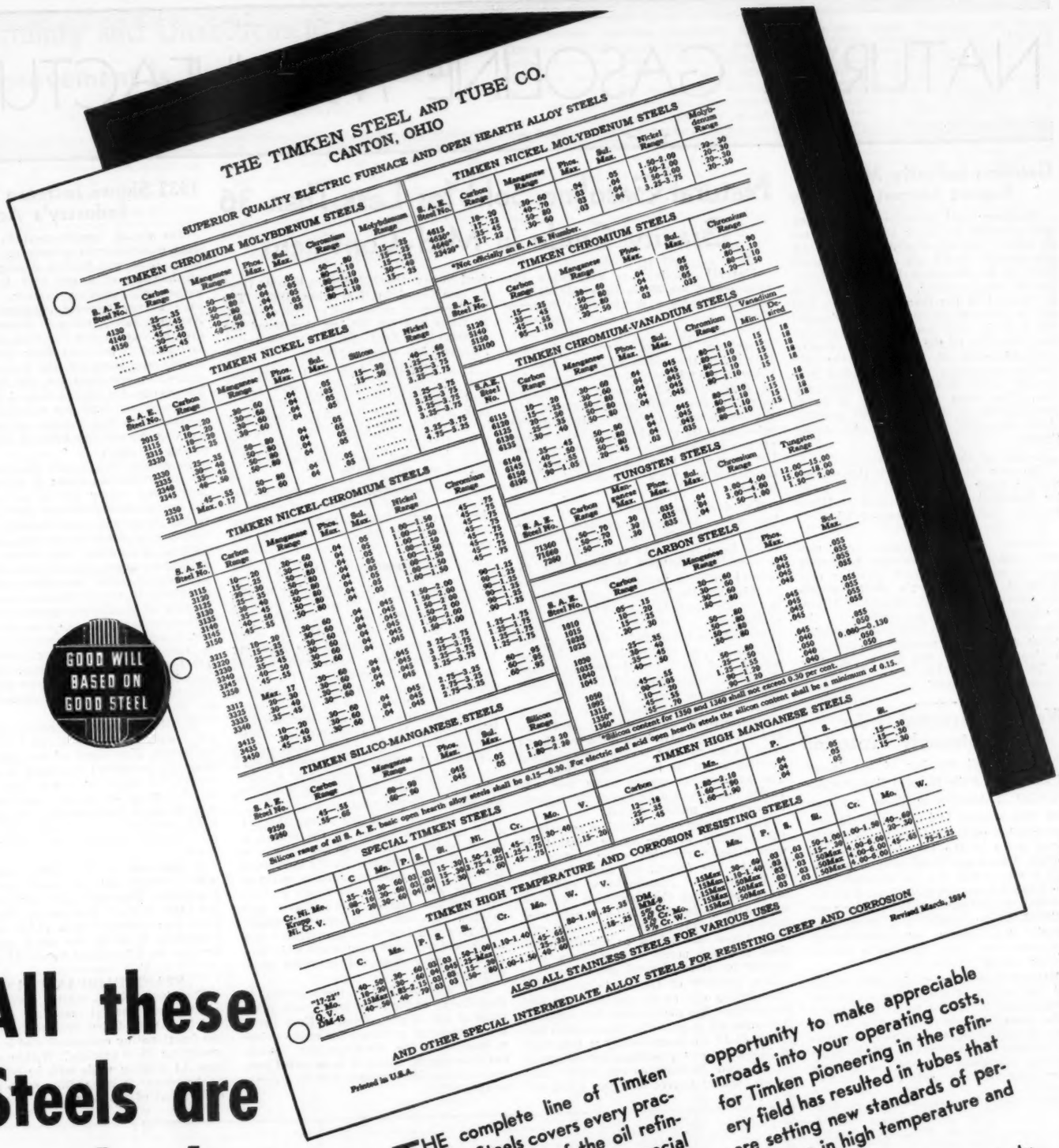
The appellant also states it is the owner and operator of a crude oil pipe line system in the vicinity of its plants, which system is connected with a number of producing wells in the area, production from which is regulated by the Texas Railroad Commission. No statement as to the production allowable under this regulation was submitted. The board therefore ruled that with so little information at hand could not revise the production quota fixed by the district allocator.

An appeal from the Roosevelt Oil Co. stated as its main argument for more output the promise of several major oil companies to take its excess of gasoline. The board, however, granting that the companies had promised to take the excess as decided in the control program, ruled that the voluntary overproduction asked by the appellant was in direct variance with the policy of the original control plan. The added production was therefore denied on these grounds.

The first split decision of the board since its inception was rendered in an appeal by the Globe Oil Co. from the decision of the district allocator. The appellant asked for an increase of 43,713 bbls. of gasoline and was granted an increase of only 25,000 bbls. Mr. Buerger, a member of the board, dissented, holding that no additional quota should be granted. The company gave as its reason for appeal the fact that it would have a very low inventory of gasoline by the end of July. Mr. Buerger pointed out that the stocks of the company in district No. 4 were high, and suggested that they transfer some of this gasoline. The majority of the board, however, held that although the stocks in district No. 4 were excessive, that the quota at present would work an excessive hardship on the company. The board instructed that any gasoline in excess of the 25,000-bbl. increase granted should be drawn from the stocks in district No. 4.

BRISTOW REFINERY REOPENS

The H. F. Wilcox Oil & Gas Co. fired the topping stills of their Bristow refinery last week to open the plant after several months idleness. The 5,000-bbl. refinery will not be opened completely yet, the topping stills only being operated according to present plans.


THE TIMKEN STEEL AND TUBE CO.
CANTON, OHIO
SUPERIOR QUALITY ELECTRIC FURNACE AND OPEN HEARTH ALLOY STEELS
TIMKEN CHROMIUM MOLYBDENUM STEELS
TIMKEN NICKEL MOLYBDENUM STEELS
TIMKEN NICKEL STEELS
TIMKEN CHROMIUM STEELS
TIMKEN NICKEL-CHROMIUM STEELS
TIMKEN CHROMIUM-VANADIUM STEELS
TUNGSTEN STEELS
CARBON STEELS
TIMKEN SILICO-MANGANESE STEELS
TIMKEN HIGH MANGANESE STEELS
SPECIAL TIMKEN STEELS
TIMKEN HIGH TEMPERATURE AND CORROSION RESISTING STEELS
ALSO ALL STAINLESS STEELS FOR RESISTING CREEP AND CORROSION
AND OTHER SPECIAL INTERMEDIATE ALLOY STEELS FOR VARIOUS USES
Revised March, 1934
Printed in U.S.A.
GOOD WILL BASED ON GOOD STEEL

All these Steels are made by TIMKEN

TIMKEN ALLOY STEELS

ELECTRIC FURNACE AND OPEN HEARTH
ALL STANDARD AND SPECIAL ANALYSES

THE complete line of Timken Alloy Steels covers every practical requirement of the oil refinery industry including the special refinery tube steels developed by Timken to meet every practical condition of temperature, creep resistance and cost.

Timken Refinery Tubes fabricated from these steels under Timken quality control offer you a definite opportunity to make appreciable inroads into your operating costs, for Timken pioneering in the refinery field has resulted in tubes that are setting new standards of performance in high temperature and creep resistance.

Our metallurgists will gladly study your problems and make recommendations without putting you under the slightest obligation.

THE TIMKEN STEEL AND TUBE CO., CANTON, OHIO

Write for 8½ x 11" size copy of this handy up-to-date specification sheet.

NATURAL GASOLINE MANUFACTURE

Gasoline Industry Must Report Output Monthly

Producers and manufacturers of natural gasoline hereafter will be required to submit monthly reports to the oil administration under an order announced July 18 by Secretary Harold L. Ickes, the oil administrator. These reports to be received by the Bureau of Mines, will aid in gauging the consumption demand which is in turn used as the basis of the allocation of the production of gasoline and crude oil. Heretofore, the only reports concerning natural gasoline production were of the refinery consumption. This, with the increase of direct consumption from the natural gasoline plants was but a part of the actual figure.

A copy of the order follows:

The new forms on which the reports will be made are expected to be ready for distribution by the Bureau of Mines between August 1 and August 15.

The order is as follows:

Natural Gasoline Report: All persons, natural or artificial, producing and/or marketing natural gasoline east of the State of California, shall complete and return to the U. S. Bureau of Mines, Washington, D. C., not later than the fifteenth day of each and every calendar month a report of natural gasoline production, deliveries, and stocks, as prescribed on Form 944a of the Petroleum Administrative Board.

Wage Differential Order Is Strongly Protested

At a special meeting of the Board of Directors of the Natural Gasoline Association of America in Tulsa, a resolution was adopted and forwarded to Secretary Ickes protesting the Wage Differential order of the Petroleum Administrator. The wage increase and differential, it was stated, are not warranted by the present economic conditions. Further, the retroactive features of the order were believed to be invalid and unconstitutional. A revocation or suspension of the order was asked pending a formal hearing on the matter.

Natural gasoline manufacturers would feel the weight of the ruling of the administration in regard to back wages a little more strongly than many of the other branches of the industry because natural gasoline has not enjoyed the price recovery witnessed by crude oil and refinery products.

Natural Gasoline Sold for Less Than 36 Gravity Crude in Mid-Continent

Natural gasoline has sold below the price posted for 36 gravity crude oil during the greater part of 1934. Natural gasoline prices have shown a slow, consistent decline since the first of the year, interrupted by two severe breaks, one starting in the middle of March and the other in the middle of June. These ended in declines which brought the quoted price for the 26-70 grade down to 1⅛ cents a gallon in each case. In scattered sales the price went below 1 cent a gallon at the low points of these two periods but these sales were made under unusual conditions and were not recorded as typical.

The downward trend in natural gasoline prices has been especially discouraging to manufacturers in that crude prices have remained constant for almost a year, and refinery gasoline has remained within a range of 1 cent between the high and the low and at the present is practically equal to the price at the first of the year.

Probably a better index of price stability, so far as the oil business is concerned, and the index of earnings among the integrated oil companies, is the average net filling station price. This average, as determined from prices taken in 50 scattered cities in the United States and after taxes have been deducted, shows that we are now at practically the same position as on the beginning of the year. The average net station price has not varied more than a half cent throughout the entire six months period.

This stability of retail prices as well as the stability of the crude market is more directly traceable to the control exerted by the federal oil administration in Washington. Prosecution of violators of the code and the tightening of lines around those in the retail business who tried to evade the payment of federal and state taxes has helped to remove practices that did much to tear down and usually precipitated local price wars.

The stability of the crude market is undoubtably due to the vigilance the administration has placed over that market. Accepting $1 as sort of a compromise between $1.10 as demanded by a majority of Mid-Continent producers for 36 gravity oil, and 75 cents as the price some major refinery buyers said they could afford to pay, the dollar price became firmly established in September, 1933. The production of crude has proved excessive at times and hot oil has threatened the structure in East Texas but no major company has suggested a cut.

It is with these facts as a background that the natural gasoline industry has sent representatives to Washington to seek help. Their industry's position is better understood now than at any previous time and there is promise of definite help but the program is being worked out very slowly.

It is in anticipation of the application of some form of stabilizing program in the immediate future that accounts for the present rise in prices. On the assumption that refiners would purchase natural gasoline in larger quantities and would subscribe to a program of rather consistent purchases month after month, manufacturers have chosen to withhold current production and to store it as long as tankage is available. On the other hand, refiners have sensed the renewing of confidence among manufacturers and have sought to tie up material for future delivery. The real test of the market will come in a week or 10 days if some plan of stabilization is not formulated in Washington in the meantime. Thus, playing hope against a lower seasonal demand and a rising price, manufacturers are faced with the possibility of a broad swing in the price, when and if a definite decision is forthcoming.

However, as each day passes the natural market is nearer to the season in which added quantities of natural can be used. Refiners usually fortify themselves for fall and winter supplies as early as possible and because the crude and retail gasoline markets have shown such marked stability, it is only reasonable that they will look upon natural as a less hazardous purchase than when wide fluctuations have appeared in these other markets.

Only a weakening in the vigilance in East Texas to the point where new quantities of hot oil are offered in East Texas would there be a chance for crude prices to weaken in the Mid-Continent. Without this coming about, it is doubtful that the retail gasoline market will be seriously affected.

1933 Shows Increase in Industry's Accidents

The steady improvement in the accident experience in petroleum companies since 1929 was broken during 1933 by an increase of 4 per cent in the frequency of disabling injuries, according to a survey recently completed by the National Safety Council. Severity, however, attained a new low level since 1926, decreasing 5 per cent from 1932. These results are based on the records of 92 companies reporting for the two years. The entire industry averaged 12.85 for frequency and 1.89 for severity in 1933 according to the records of companies working almost 580,000,000 man hours during the year.

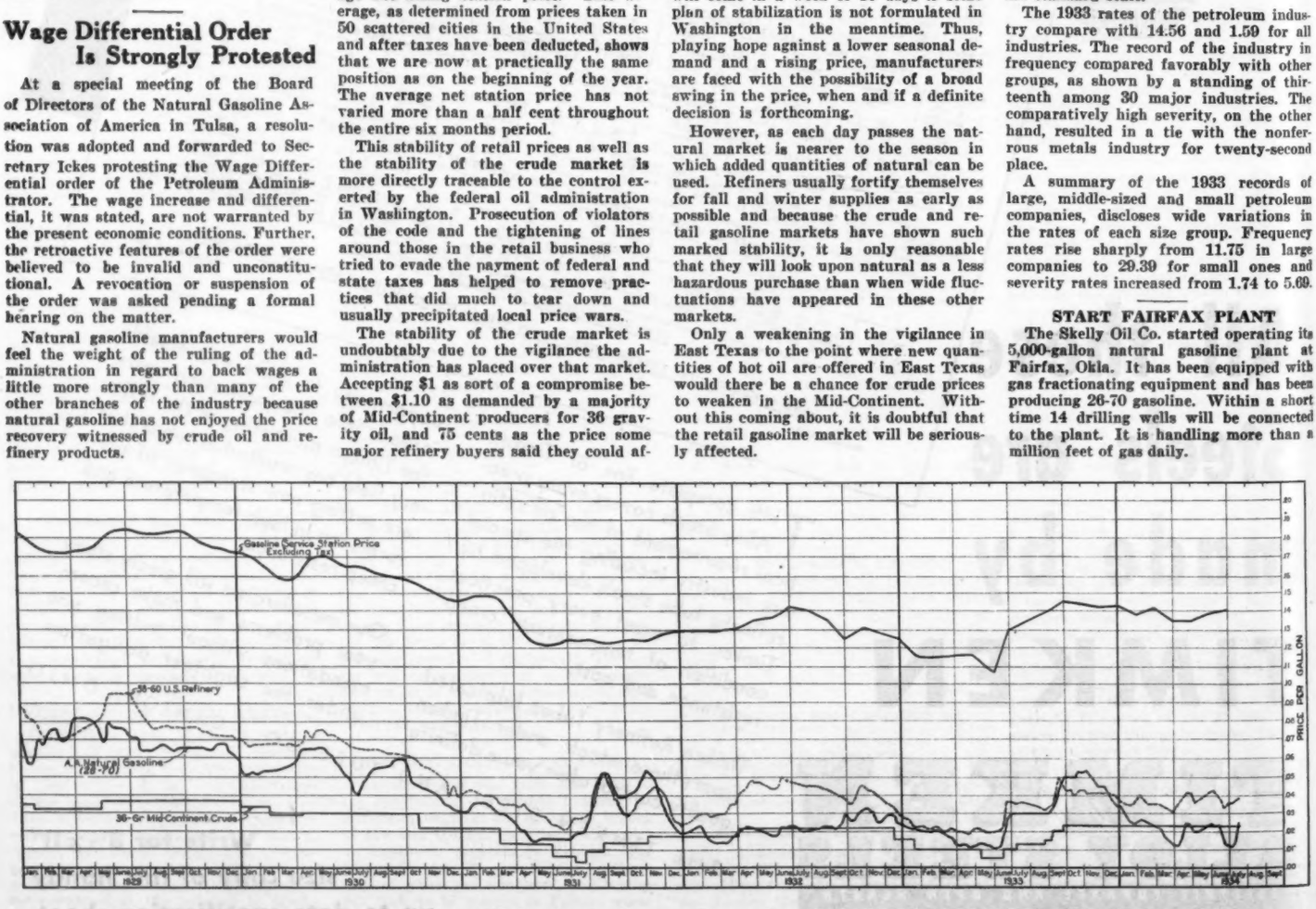
In making this report the council has set its definitions thus: A disabling injury is any injury arising out of and in the course of employment, that results in death, permanent total disability, permanent partial disability, or temporary disability. Temporary disabilities include only cases where time is lost other than the day or shift on which the injury occurred. Injury frequency rate is the number of disabling injuries per 1,000,000 man hours of exposure. Injury severity rate is the number of days lost as the result of disabling injuries, per 1,000 man hours of exposure. This rate includes arbitrary charges for permanent disabilities or deaths, in accordance with the standard scale.

The 1933 rates of the petroleum industry compare with 14.56 and 1.59 for all industries. The record of the industry in frequency compared favorably with other groups, as shown by a standing of thirteenth among 30 major industries. The comparatively high severity, on the other hand, resulted in a tie with the nonferrous metals industry for twenty-second place.

A summary of the 1933 records of large, middle-sized and small petroleum companies, discloses wide variations in the rates of each size group. Frequency rates rise sharply from 11.75 in large companies to 29.39 for small ones and severity rates increased from 1.74 to 5.69.

START FAIRFAX PLANT

The Skelly Oil Co. started operating its 5,000-gallon natural gasoline plant at Fairfax, Okla. It has been equipped with gas fractionating equipment and has been producing 26-70 gasoline. Within a short time 14 drilling wells will be connected to the plant. It is handling more than a million feet of gas daily.



Trend of gasoline service station prices. Mid-Continent refinery and natural gasoline prices and 36 gravity Mid-Continent crude

Uncertainty and Unsettlement at Chicago; Improvement Is Temporarily Halted

By SPECIAL CORRESPONDENT

CHICAGO, July 23.—Unsettlement and uncertainty appear to be the only adequate words to express the situation which has developed in the tank car petroleum market here, especially the gasoline section. The recent improvement in the spot gasoline market seems to have come to at least a temporary halt, while those in charge of the East Texas gasoline buying program seem to improve the efficiency of the workings of the plan. Gasoline is still being bought in that plan but considerable material also has been seeping out in other trade channels at prices lower than those ruling on the East Texas movement.

Sentiment is divided over the outlook. As the week opened low octane motor gasoline was available considerably below 4 cents in various sections. Jobbers at no time have bought readily in the open market. It is true they have been forwarding shipping instructions briskly and this contract movement has reached comparatively good totals.

Work on Local Markets

Aside from efforts being made to improve the workings of the tank car market operations, much work is being done on the tank wagon and service station situation in various regions. The plan for a cartel in Chicago is a sample. It is felt that added stability must be imparted to the general oil market situation in the near future to make the general outlook safer. In some quarters there is much nervousness over possible effect on the crude market of failure of the tank car market to "respond to treatment."

Gasoline consumption has been running high and both jobbers and major companies have been doing a good gallonage. Night driving has become popular in an effort to cool off after hot days. Somewhat larger percentages of total business is now coming after 7 p.m., representative station sellers report.

Refiners Offer Little

In general, refiners have been offering relatively little gasoline direct to jobbers, but the latter have been getting offers from brokers sufficient to keep the market from advancing. Most of the carlot marketers in the Chicago district have had access to some little gasoline varying fractions below the generally quoted prices. This overhanging material refused to disappear. Plans to purchase it were being perfected as the week opened. The exact quantity of this material was open to question and it was not entirely spotted as to original source. Reports placed its origin in most cases in either North Texas or East Texas, especially the latter. If the latter, then the refiners' buying plan would seem not to be working as well as expected.

Kerosene

Kerosene has been making a better showing than gasoline. It has been firm to slightly better. Field work has taken fair amounts of this material and the high grade material is fairly strong. Statistics are regarded as presenting a fairly strong picture on this product.

Distillates

Heating oils present a somewhat mixed situation. Distributors report they have been receiving quite a lot of offerings from various sections, especially East Texas, on distillates at somewhat lower prices. However, some of these distributors have placed some material in storage and mostly they report they do not want more material now, on the theory that a possible crude price cut might drop heating oils still lower.

Fuels

Gas oils and zero fuels are quiet but about steady and in moderately good demand. At the same time, there is a fair continuing demand for heavy industrial

(Continued on Page 64)

Crude Oil Prices

(Continued from Page 41)

Effective September 29 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.96
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.30
Fort Collins and Wellington, Colo. (June 17) (See Salt Creek prices)	
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 9, 1933) See Stanolind Mid-Continent price schedule	
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 8, 1933) See Mid-Continent gravity prices	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage	1.08
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome:	
Below 18° (July 1, 1934)	.52
18° and above (July 1, 1934)	.62
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.15
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Port Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos-Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.03
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Mar. 17, 1934)	1.03
Pleasant Hill, La. (Mar. 17, 1934)	1.03
Zwolle, La. (Mar. 17, 1934)	1.03
Champagnolle, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.03
Stephens, Ark. Sept. 29, 1933)	.70
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields (See gravity table)	

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co; Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective May 1, 1934)

Bradford, Pa.	$2.55
Allegany, N. Y.	2.55

SOUTH PENN OIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.55
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.32
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.17
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.07
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.33

PENNZOIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines:	
Group A (Includes Cochran, Franklin, Hamilton and Doolittle districts.)	$2.47
Group B (Includes Titusville district.)	2.46
Group C (Includes Turkey and Tidioute districts.)	2.46
Group D (Includes Bear Creek and Porkey districts.)	2.44
Group E (Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson Kennerdell, Emlenton, Tiona, Lacey and Kinsua districts. Price depends on length of pipe line haul to plant at Oil City.	2.43

PURE OIL CO.
(Effective May 1, 1934)

Cabin Creek, W. Va.	$2.17
Bradford Hollow, W. Va.	2.17
Kelly Creek, W. Va.	2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky (May 26, 1934)	$1.08
Midland, Mich. (Sept. 30, 1933)*	1.02
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.23
Hart County, Ky. (Oct. 1, 1933)	1.18

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear Naphtha	$2.55
Discolored naphtha	2.31
Crude oil, 50 gravity	2.19
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.56

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$0.94

*F.o.b. ship, based on May transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	..	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.72	.69	.73	....	.69	.67	.68	.65	..	.66	....	....	....	.66
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81*	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$ .83	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Mountain View—Effective July 3, 1934, the following are the prices of the Standard Oil Co. of California for its current purchases of crude oil at the well in the Mountain View Field: 14 to 19.9 degrees, 57 cents; 20-20.9, 58 cents; 21-21.9, 59 cents; 22-22.9, 61 cents; 23-23.9, 63 cents; 24-24.9, 66 cents; 25-25.9, 69 cents; 26-26.9, 72 cents; 27-27.9, 75 cents; 28-28.9, 78 cents; 29-29.9, 81 cents; 30-30.9, 84 cents; 31-31.9, 87 cents; 32-32.9, 90 cents; 33 degrees and above, 93 cents.

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 62 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

Late Fields

OKLAHOMA

The Texas Co.'s discovery well in the Polo Pool, Noble County, Oklahoma, had second Wilcox sand at 4,900 feet and was in sand at 4,910 feet. The well has flowed as high as 1,564 bbls. in 24 hours while drilling. It is No. 1 Voss in Section 28-22-2w.

Delaney and others' deep sand discovery in the Fitts Pool in Pontotoc County, NE cor. Section 25-2-6, was tubed and flowed 220 bbls. in 24 hours and 260 bbls. the following 24 hours. Viola lime was found at 4,032 feet and Simpson sand at 4,430-45 feet, total depth 4,448 feet.

Inland Development Co.'s test in C SE SE NW Section 9-7-4, South St. Louis area, Pottawatomie County, was acidized in Hunton lime at 3,738-85 feet and produced 1,080 bbls. of oil and 300 bbls. of water in 24 hours.

Mid-Continent Petroleum Corp.'s No. 2, C SW NE NE Section 25-5-4, Pontotoc County, swabbed 500 bbls. of oil and 200 bbls. of water from Simpson at 2,575-84 feet.

The Texas Co.'s wildcat test south of the Chandler Pool in Lincoln County, SE NE Section 33-14-14, was plugged back from 5,002 feet to 3,065 feet. Pipe was ripped at 3,048-52 feet and the well began flowing a solid 8-inch stream of oil from the Cleveland sand which had been logged at 3,040-89 feet. The flow was estimated at 100 bbls. an hour.

KANSAS

Lario Oil & Gas Co.'s wildcat test in Harper County, Kansas, C NW Section 32-31-11w, had chat at 4,350 feet and cored from 4,352 to 4,358 feet with no core recovery. Halliburton tester was run and the well showed from 500,000 to 1,000,000 feet of gas. It was shut down for orders. Standard tools may be installed.

Mid-Kansas Oil & Gas Co.'s No. 1, C NW Section 10-18-16w, Rush County, was first reported to have produced 500 bbls. in a day, but this figure was corrected to 100 bbls. per day. It is an 8,000,000-foot gasser spraying oil of 34 gravity.

DOES NOT APPLY TO OIL

WASHINGTON, D. C., July 23.—An opinion by the Petroleum Administrative Board that the recent order of President Roosevelt, permitting bidders operating under codes to quote to government agencies prices 15 per cent below code minima, did not apply to the oil code was announced by Secretary Harold L. Ickes, oil administrator.

The board held that the order was applicable by its terms only to industries covered by codes which require prices to be filed with their respective code authorities. The board said:

"The petroleum code provides for open price posting by the companies. It does not require any price to be filed with the Planning and Coordination Committee or any of its subcommittees. In as much as no prices are filed with the committee, the executive order permitting bids of 15 per cent below filed prices cannot be considered applicable to the oil industry."

The opinion of the board has been transmitted to the Planning and Coordination Committee and to the Division of Procurement of the Treasury.

GERMAN OIL INSTITUTE

Through the Prussian National Geological Institute the German government has organized the Institute for Petroleum Geology. Doctor Bentz, German scientist, has been placed in charge with headquarters at Zweigstelle Hanover, Lowenstrasse 14, Hanover. The new institute was formed to aid in the development of Germany's oil fields. Geological information covering all of Germany will be available through the institute.

HARD ON FRENCH MOTORIST

The price of gasoline in France is five times higher than the world price and the price of automobiles, four.

PIPE LINE CONSTRUCTION

GULF COAST LINES

HOUSTON, Tex., July 23.—Pure Oil Co., which still retains half interest in Superior's acreage at Bosco, is reported making preparations for a pipe line to the field. The survey of a route from the new producing area to the Gueydan Field, a distance of 32 miles is already under way and the actual construction is expected to be started within the next few weeks. The line will connect with Pure's 12-mile line from Gueydan west to the Mermentau River.

Shell Pipe Line Co. last week started construction on the 20-mile line connecting the Roanoke Field with its Iowa station from which a 22-mile line runs to Kaough's landing south of Lake Charles on the Calcasieu River.

The construction of the Mathieson Alkali Works' 20-mile pipe line for transportation of salt brine from the West Hackberry Field to the firm's chemical plant near Lake Charles, is well under way.

Within the near future United Gas Co. will build an 8-mile gas line from its booster station north of Woodlawn to Shell Petroleum Corp.'s natural gasoline plant in the Iowa Field. Both the booster station and the gasoline plant are now under construction.

FEDERAL LOAN FOR PIPE LINE?

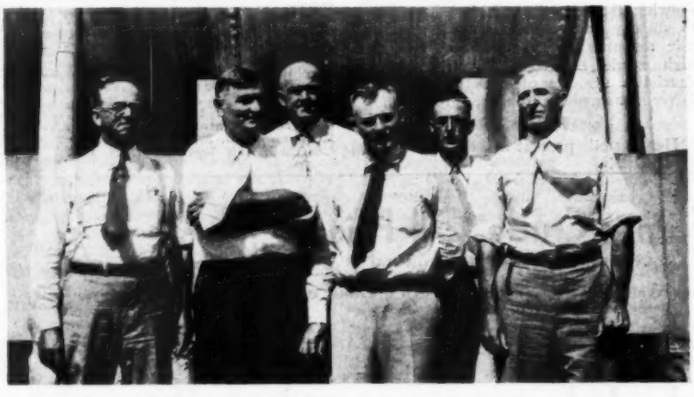
EMPORIA, Kans., July 23.—Emporia city commissioners have decided to make application for a Federal loan for the construction of a gas pipe line from the Burrton gas field in Harvey County to Emporia and for a gas distribution system in Emporia. The Kansas Electric Power Co., which buys gas from Cities Service, has offered a reduced gas rate in Emporia in return for a franchise, but the commissioners will seek a PWA loan for Emporia's own pipe line before making any decision on the utility proposition.

The pipe line would be approximately 90 miles long and the line, with the distribution system, would involve about $1,000,000. Plans will be submitted with the application.

The city commission believes such a pipe line would mean cheaper gas for Emporia.

NEW DUVAL COUNTY LINE

HOUSTON, Tex., July 23.—Nine miles of 8-inch line from the North Government Wells Pool in Duval County to connect with the company's trunk line system to the south is being constructed by Humble Pipe Line Co. The new, larger outlet will link with Humble's system about midway between the North Government Wells Pool and Benavides. The 8-inch line Humble is laying will replace two 4-inch outlets which are being dug up and dismantled.



Gulf Pipe Line foremen who recently held meeting in Fort Worth, Texas, with W. F. Rollins, superintendent. Reading left to right: C. C. Chambers, Roscoe; E. Jones, master mechanic, Fort Worth; W. H. Parr, Panhandle District; J. W. Pyron, Midland; R. C. Sanders, Saginaw and Dick Martin, Ranger, Texas

The Oil Man's Calendar

August

24-27—Titusville, Pa., Drake Well Memorial Celebration.

September

9—Wernersville, Pa., American Trade Association executives.

10-14—Cleveland, Ohio, American Chemical Society.

11-12—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel (dates tentative).

12-14—Atlantic City, N. J., North American Gasoline Tax Conference, Claridge Hotel.

19-21—Atlantic City, N. J., National Petroleum Association.

26-27—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

October

1-5—Cleveland, Ohio, National Safety Council, Cleveland, Statler, Carter and Hollenden Hotels.

9—Michigan Independent Petroleum Distributors Association, place to be named later.

12-13—American Institute of Mining Engineers, Petroleum Division fall meeting, Tulsa, Mayo Hotel.

16-18—Big Four State Jobbers Association Convention, Kansas City, Mo.

29—American Gas Association Convention and Exhibition, Atlantic City, N. J.

November

5-9—Cleveland, Ohio, Automotive Service Industries Show, Cleveland Public Auditorium.

Los Angeles, Calif., American Association of Petroleum Geologists, Pacific section.

12-15—Dallas, Tex., annual meeting, A.P.I.

December

3-8—New York, National Exposition of Power and Mechanical Engineering, Grand Central Palace.

January

7—New York, Society of Automotive Engineers, annual dinner.

Atlantic Refining Co. Earnings Show Increase

Earnings of the Atlantic Refining Co. for the second quarter improved considerably over those in the March quarter and with the exception of the 1932 period were better than in any other June quarter since 1929. This is also true of the net profit for the first six months, which amounted to $2,990,000, or $1.12 a share on 2,665,904 shares.

Preliminary figures for the six months indicate that during the second quarter Atlantic earned $2,377,000 net, or 89 cents a share, compared with $613,000 or 23 cents a share in the first quarter of the year. The second quarter of last year included a special profit on the sale of properties amounting to $1,320,000, increasing net to $2,125,000, or 78 cents a share.

Thus far this year the company has been relieved of the heavy inventory adjustments which low prices entailed in the first half of last year and which have in the past meant sharp changes in net. Prices of gasoline in the company territory were better than in the first quarter and a year ago, while volume of sales increased.

In the third quarter last year, however, Atlantic's net profit went up sharply, even exceeding that in the same period of 1929. This was due to advantageous prices on crude oil which it purchased, while product prices advanced.

ON PRODUCTION COMMITTEES

WASHINGTON, D. C., July 23.—The Planning and Coordination Committee announces the following appointments:

Texas Production Committee—W. L. Connelly, Tulsa; R. W. Fair, Tyler, Tex.; W. N. Hooper, Conroe, Tex.

Oklahoma Production Committee—Frank Buttram, Oklahoma City; R. L. Gordon, Bartlesville; L. B. Jackson, Tulsa; W. H. Klein, Stanolind Oil & Gas Co., Tulsa; J. D. McNutt, Tulsa; Will H. Smith, Ardmore; Sam Viersen, Okmulgee; L. W. Winkler, Duncan.

Colorado-Wyoming Production Committee—H. J. Duncan, supervisor, U. S. Geological Survey, Casper, Wyo.; Pierre La Fleiche, state mineral supervisor, Casper, Wyo.

Oregon State Petroleum Committee—A. E. Horn, Jr., General Petroleum Corp.

CONSOLIDATED OIL DRILLING

A survey of producing operations just made by the Sinclair Prairie Oil Co., subsidiary of Consolidated Oil Corp., shows that in the first six months of this year the company drilled 184 oil wells and one gas well, with an initial oil production totaling 195,070 bbls.

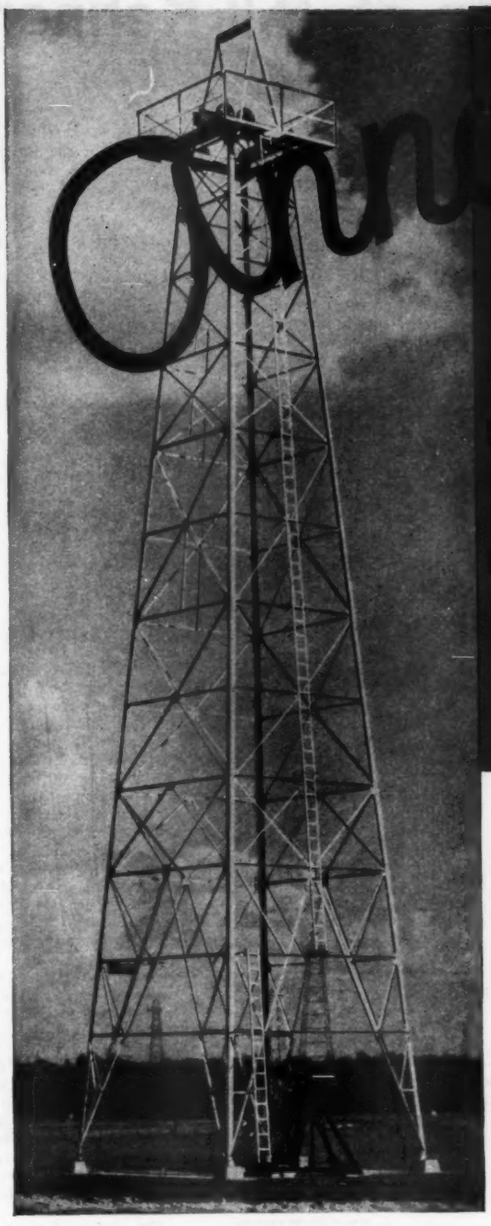
These operations were divided as follows: In Oklahoma, 78 wells with an initial production of 10,231 bbls. In Kansas, 15 wells, initial production 5,191 bbls. In Texas, 91 wells with an initial production of 179,648 bbls.

The above figures do not include two wells just completed in New Mexico, one with a production of 20,000 bbls. per day in the Hobbs Pool and another of 10,000 bbls. in the Jal area.

PERSIAN PRODUCTION

Persian crude oil production in June totaled 628,435 tons according to official reports. The actual production for the first five months of the year, according to revised figures, was 3,081,309 tons which indicates a total production of 3,709,744 tons for the first six months of this year.

Figures on a basis of seven barrels to the ton, the production for the first half of 1934 totaled 25,968,208 bbls., which was 13 per cent greater than the production for the same period in 1933. The June production of 149,900 bbls. daily was practically the same as that reported for June, 1933.



One of over 700 M. I. W. Derricks purchased by the Sinclair-Prairie Oil Co.

Announcing

THE M.I.W. Steel Derrick

After manufacturing derricks for 11 years for one of the leading derrick sales agencies, we are now making an improved derrick and selling it direct under our own name. . . . Our 11 years experience, plus the advice of leading petroleum engineers, has enabled our engineering department to develop a derrick incorporating all the latest improvements. M. I. W. Derricks are being used by leading producing companies and have been thoroughly proven in the field.

Muskogee Iron Works A.P.I. Derricks and Rig Fronts are made in a complete range of sizes and all sizes are available for immediate shipment from stock.

MUSKOGEE IRON WORKS

DESIGNERS — FABRICATORS — ERECTORS . . . . EST. 1909

Main Office and Plant:
Muskogee, Oklahoma

1115 First Nat'l Bank Bldg.,
Dallas, Texas

Disposal of Water After Use Important Factor In Economical Operation of All Refineries

By DANIEL IRWIN

Factors to Consider in Disposal of Plant Water

In this second article on the general subject of water in petroleum refining the author confines his discussion to the disposal of water after the various uses in plant operation. The first article, dealing with the chemical treatment before utilization, appeared in The Oil and Gas Journal, issue of June 7, 1934.

As refinery processing has become more and more involved from both the physical and chemical ends, the problems incidental to the disposition of waste water and sewage at refineries have become of primary importance. The safeguards taken by city, state and Federal officers to prevent pollution of streams and protect health, coupled with dangers to livestock and injury to crops and all types of vegetation, have made this problem an exceedingly practical one to most plant operators.

In this discussion disposal of water is first considered from the angle of recovering all oil from water before the latter leaves the plant. Practical suggestions concerning the construction of sewers and recovery basins are given. Similar data, with the aid of diagrams, are explained dealing with the disposal of plant sewage. A third article to be published in an early issue will complete the discussion of the water problem in refinery operation.

The disposal of refinery water involves two important considerations—the recovery of valuable oils and the sanitary disposal of sewage. Process water for the purposes of this discussion may be considered as all water utilized either in direct contact with the oils and that used for heat exchange and only contacted with oils through leakage or by accident to equipment. Sewage would include all waste waters, but in this article it will be confined to that water used for sanitary purposes. Methods of disposal must have in mind the prevention of pollution

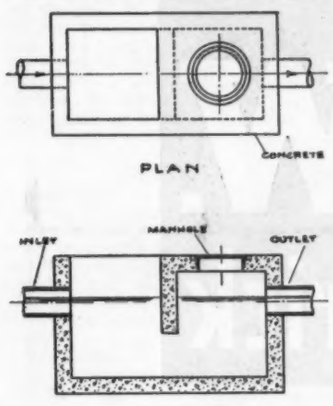


Figure 1—Type of oil sewer

of river, stream, lake or countryside, or sea or harbor, into which refinery water is emptied.

Piping systems in the refinery usually are divided into two distinct divisions—oil sewer and sanitary sewer. These divisions are maintained separately to the place of final discharge from the plant. The recovery of oil is an economy and a fire safety measure and removes the nuisance of water pollution. The modern requirement is that sanitary sewage be treated to prevent the spread of disease and to avoid pollution of water that may be used by humans or cattle. Water from refineries need no longer be cause of complaint by neighboring industrial plants, persons or communities, where a proper oil recovery system is installed.

Briefly described, oil sewer water usually passes at very low velocity through and over weirs set in a long tank or basin and the oil and water is separated by gravity. The oil on the surface is carried by the wind or by current of air set up by fans to a skimming weir; thence to the settling tanks, from which after further settling out of any water carried over, the recovered oils may be pumped or flow back to be processed again. Sanitary sewage undergoes a bacterial digestion that removes the bulk of solids, and the tail water may be filtered through the earth before final discharge into natural water courses.

Oil Sewers

Oil sewers may be of steel, cast iron, concrete or vitrified tile, but all piping should have tight joints to prevent seepage. The sizing of piping and the pitch for flow, as well as the method of joining branches to mains, should carefully follow the best hydraulic practice. Each line should be baffled with fire stops, similar in design to that shown in Figure 1. These fire stops should be placed at 100-foot intervals, at all junction points, where the sewers pass from one division of the refinery to another, and finally one at the inlet to the recovery tank or basin.

Open drains and flumes are hazardous, not only in time of accident, but during normal operation. Too many fire stops are not objectionable, for in case of fire the shorter the run of sewer involved the less the damage caused.

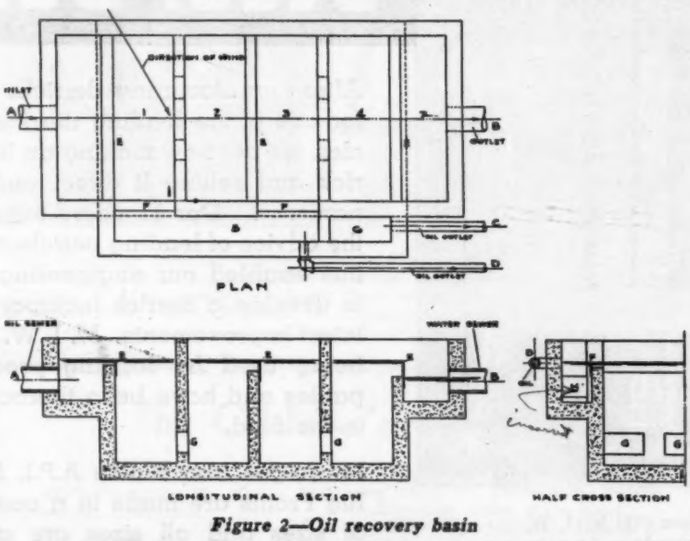


Figure 2—Oil recovery basin

Oil Recovery Basin

The main oil sewer should discharge into the end A of the basin shown in Figure 2. This oil recovery basin consists of partitions having surface weirs and submerged weirs. The free flow should not exceed 1 inch per second, and the flow over and through the weirs should be limited to about 3 inches per second.

The location of the basin will probably be determined by the topography of the plant, but the position should be such that the prevailing wind will carry the surface oils toward the overflow baffles or weirs E. Fans, of airplane or mine types, may be used to replace or augment the natural wind. The downstream outlet B should discharge clean water. Oil and oil emulsions should flow over weirs F, with different concentrations of oils from Sections 1 and 3. Sections 5 and 6 again separate the water-oil mixtures, and these mixtures will flow by pipes C and D to horizontal settling tanks 7 and 8 in Figure 3. Velocities in these latter tanks should be about 1 inch per second. Water separated is then returned to the outflow B through pipes F and the recovered oil passes by pipes E to further settling or to the reprocessing equipment. Careful design of the piping and the equipment of the recovery basin, based on tests of the waste water and the oil recovery, is recommended, and adjustment of the weirs may be made from time to time to obtain good oil recovery and clear discharge water. The function of the open weirs is to distribute an even oil-water layer on the surface of the basin in each section.

In the mechanical design of the basin, outside walls and partitions must be designed for the hydrostatic conditions of a full tank and of an empty tank, and the soil loadings involved. A gravity setup is to be preferred, but pumping of the recovered oils or oil-water mixtures probably would be unavoidable. Where sludges and acids or caustic are received, as from a treating plant sewer, corrosive effects on the materials of the basin must be studied. A sulphur casting on the bottom or sides and in the joints may be used, as well as integral compounds in concrete, if that is the material of the basin.

Sanitary Sewers

For the sanitary sewers, there must be a system free from oily discharges if the sewage is to be treated before discharge. In the layout of such a sanitary sewage system, plumbing practice as for buildings will be too expensive and unnecessary. Rather should public sewer system practice be followed, as to sizing, pitch for flow, and methods of branching. Piping may be of cast iron, vitrified tile, with reasonably tight joints. A study and plotting of the natural drainage of the land on which the plant is situated will suggest an economical layout, and a minimum of excavation work.

In this connection, the writer had charge of the installation of an extensive sewage system in a refinery that totaled several miles in length and included a company townsite. The entire ground surface was rock, and with practically no exacavation a system was laid out on the surface, using the natural drainage contours.

Sewage Digestion Tank

The sewage digestion tank, Figure 4, has been successfully used in refinery and pipe line pumping station work, and gives satisfaction. The essential part is the digestion chamber, with its overflow weir. A filter bed should be included in connection with the tank, but that is not essential.

The action of mold bacteria on the organic matter in water is elementary in principle but involved as to the exact chemical reactions. Needless to state, the operation must be started with sludge cake obtained from a working tank, this sludge containing the bacterial enzymes.

(Continued on Page 58)

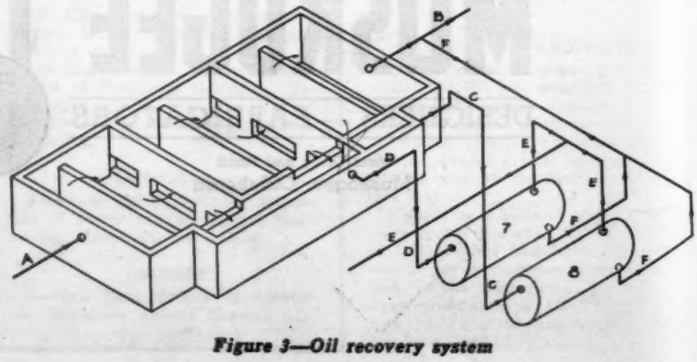
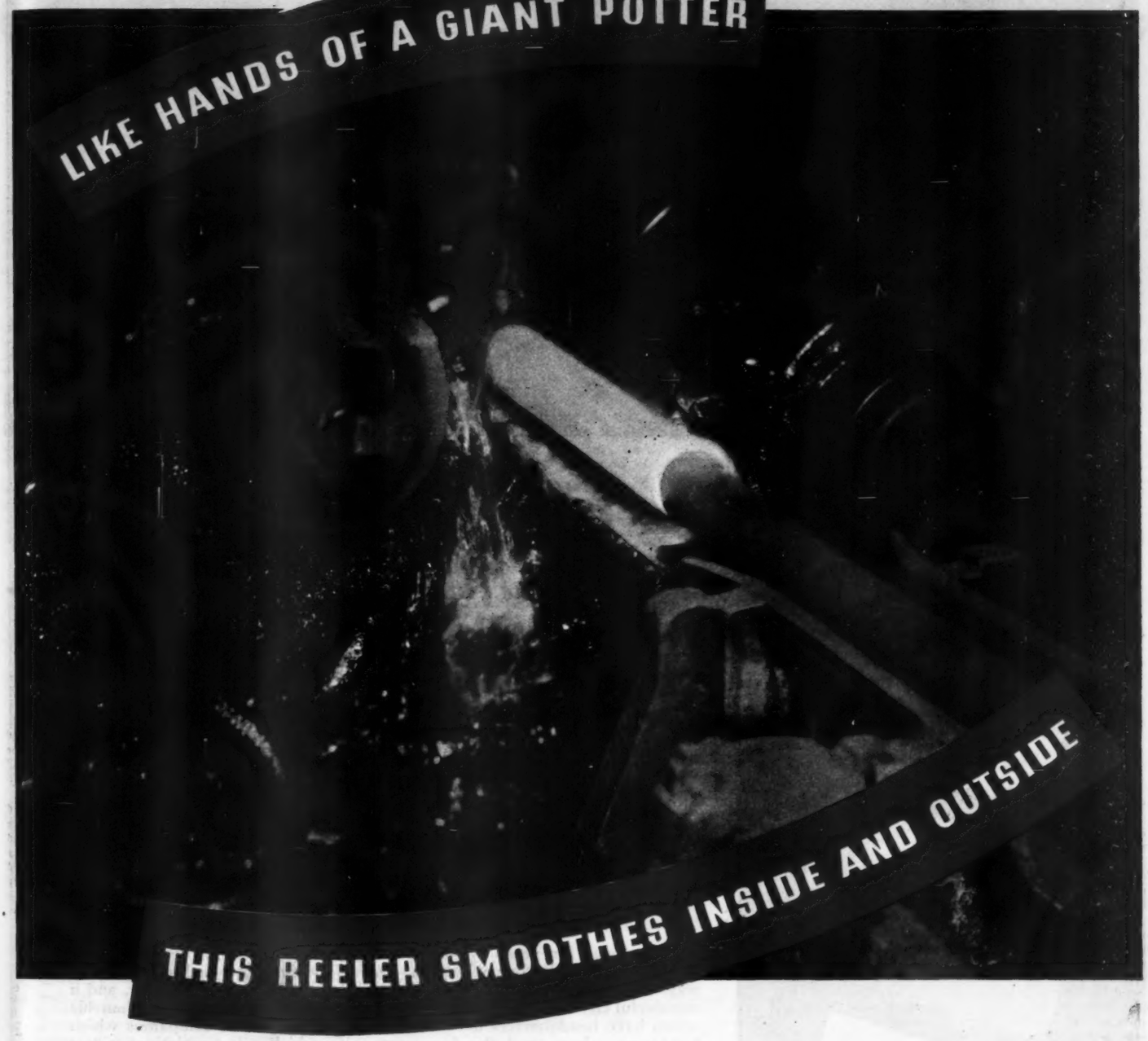


Figure 3—Oil recovery system



After being pierced from a solid billet, J&L Seamless is given an exceptionally smooth interior and exterior finish by passing through the reeler. This machine "irons out" the surfaces, producing the smoothness that is so important in tubular products for oil country service. The quality of the steel is improved, too, by this further "working" of the metal.

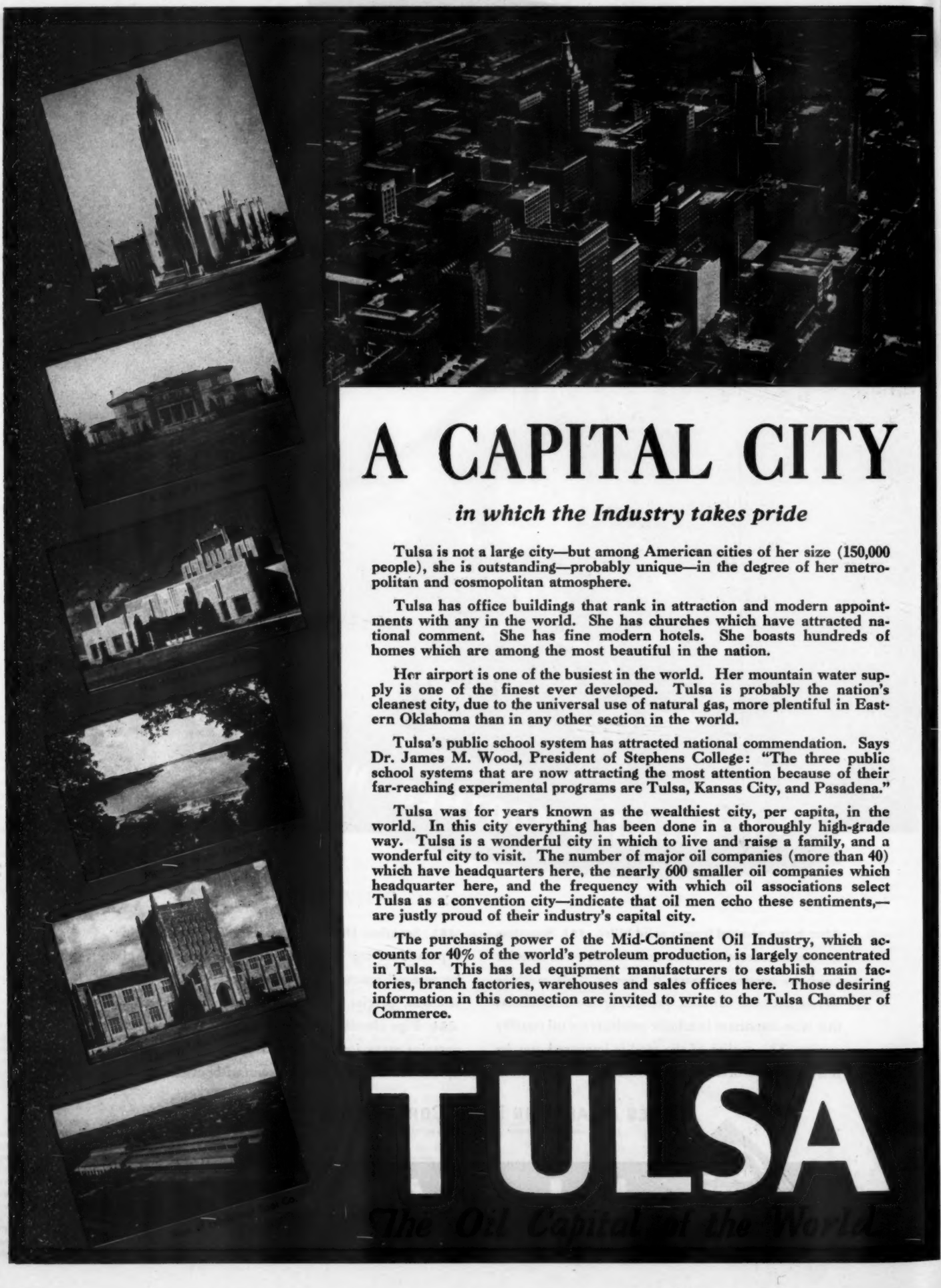
J&L Seamless Drill Pipe, Casing, Tubing and Line Pipe are serving the petroleum industry extensively because oil country applications require dependable strength, precise manufacture and uniformity. The J&L Pipe Handbook, in addition to complete data, contains many interesting pictures of manufacturing operations. A copy will be sent without obligation.

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

J&L STEEL

J&L PIPE

J&L SEAMLESS
DRILL PIPE · CASING · TUBING · LINE PIPE



A CAPITAL CITY

in which the Industry takes pride

Tulsa is not a large city—but among American cities of her size (150,000 people), she is outstanding—probably unique—in the degree of her metropolitan and cosmopolitan atmosphere.

Tulsa has office buildings that rank in attraction and modern appointments with any in the world. She has churches which have attracted national comment. She has fine modern hotels. She boasts hundreds of homes which are among the most beautiful in the nation.

Her airport is one of the busiest in the world. Her mountain water supply is one of the finest ever developed. Tulsa is probably the nation's cleanest city, due to the universal use of natural gas, more plentiful in Eastern Oklahoma than in any other section in the world.

Tulsa's public school system has attracted national commendation. Says Dr. James M. Wood, President of Stephens College: "The three public school systems that are now attracting the most attention because of their far-reaching experimental programs are Tulsa, Kansas City, and Pasadena."

Tulsa was for years known as the wealthiest city, per capita, in the world. In this city everything has been done in a thoroughly high-grade way. Tulsa is a wonderful city in which to live and raise a family, and a wonderful city to visit. The number of major oil companies (more than 40) which have headquarters here, the nearly 600 smaller oil companies which headquarter here, and the frequency with which oil associations select Tulsa as a convention city—indicate that oil men echo these sentiments,—are justly proud of their industry's capital city.

The purchasing power of the Mid-Continent Oil Industry, which accounts for 40% of the world's petroleum production, is largely concentrated in Tulsa. This has led equipment manufacturers to establish main factories, branch factories, warehouses and sales offices here. Those desiring information in this connection are invited to write to the Tulsa Chamber of Commerce.

TULSA

The Oil Capital of the World

Good Saturation in Andrews County Wildcat; Drought Still Hampers North Texas Work

By L. E. BREDBERG

Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., July 23.—The wildcat of Humble Oil & Refining Co., No. 1 R. M. Means, in the north central part of Andrews County, Section 2, Block A-35, P.S.L. Survey, was the featured operation in West Texas during the week, when it cored lime showing good saturation between 4,139 and 4,152 feet. The best section cored was reported from 4,139-53 feet where it showed excellent saturation. The operators attempted twice to make a drill stem test, but each time the packer failed to hold, and it is drilling at 4,196 feet. Since it tested 10,800,000 feet of gas at 2,957 feet and has been checking high on every formation, it is one of the most closely watched wildcats drilling in the district and has stimulated leasing and royalty buying throughout the surrounding counties.

One wildcat has already started drilling in the county southeast of the Deep Rock Pool, and northeast of the Ford area, being drilled by the Honolulu Oil Co. and others on the J. E. Parker land. Crump and Hanagan and others have assembled a block of acreage in the northwest corner of the county and are to drill in Section 4, Block A-37, P.S.L. Survey. This test will be about 15 miles northwest of the Deep Rock Pool. In Section 29, Block 3, P.S.L. Survey, Dr. G. T. Hall and others have made a location for a 5,000-foot test on their block which is about 8 miles southeast of Andrews.

Texas Co. is reported to have purchased royalty under 12 sections of Honolulu and Llano Oil companies' block on which the company is now drilling. The deal involves all of Sections 2, 9, 11 and 12, all of Section 1 except the E half and the NW and the S half of Section 10, in Block A-43, all of Section 18, Block A-46, and all of Sections 6, 7 and 18, and all of Sections 16 and 17 except the north quarter, Block A-44, P.S.L. Survey.

Ector County

In Ector County, York-Harper and others' No. 1 Frank Bates, 1½ miles south of Broderick and Calvert's No. 1 E. F. Cowden, a discovery well in Section 38, Block 44, Township 2s, T.&P. Survey, is being abandoned after encountering sulphur water at 4,517 feet. This makes the fifth dry hole drilled around the discovery. The area that has not been tested is to the east.

The south end of the North Cowden area got another well during the week proving about a half mile more of acreage. The completion was Landreth Production Co.'s No. 1-B T. P. Land Trust, Section 3, Block 43, Township 1s, T.&P. Survey. It had an oil showing at 4,083-89 feet, with an increase in oil from 4,113-30 feet and is estimated good for 50 bbls. per day while drilling. It is to be carried to about 4,250 feet where it will be shot and given a test. This is the second producer in this area which was proven several weeks ago by the same operators and will call for more drilling in the extension. Sun Oil Co. has announced location for an offset, which will probably be followed by the Continental Oil Co. and Empire Gas & Fuel Co. staking locations.

Open Sixth Area

Production test on C. J. Davidson and others' No. 1 Cole, which opened the sixth producing area for Ector County, have been somewhat disappointing to date. It was shot several days ago with 360 quarts from 4,180-4,340 feet and gauged only 62 bbls. the first day through 4-inch line; the second day it gauged 28 bbls., and 17 bbls. the third day after it had been opened through the separator. The well has not encountered any water and will probably be drilled deeper and treated with acid. It is in the northwest part of the county, in Section 10, Block 45, Township 1-n, T.&P. Survey.

Landreth Production Co.'s No. 1 Scharbauer, about 7 miles west of the North Cowden area and about 5½ miles southeast of the Davidson well, has been shut down for several days to clear titles. It is bottomed at 3,765 feet in Brown lime topped at 3,710 feet. Based on top of the Brown lime, it is reported to be checking about 234 feet higher than the dry hole drilled by Penn-Devonian Oil Co., which is 2 miles southeast, and from 25 to 50 feet lower than C. J. Davidson's No. 1 Cole. It is in Section 20, Block 44, Township 1n, T.&P. Survey.

Upton County

Some 10,301 feet of 7⅝-inch casing has been set in Gulf Production Co.'s No. 103 McElroy preparatory to testing the lime which carried a showing of oil and gas from 10,581 feet to 20,631 feet. The operators made a record when they ran and landed the longest string of pipe ever run in the Texas or Mid-Continent fields. The well will set for seven days, after which a test will be made and if the test does not show as a producer it will be carried down with a 3-inch hole. It is bottomed at 10,631 feet, believed to be in the Ordovician lime which produces in the Big Lake Field in Reagan County. It is in the McElroy Field, Section 197, Block F, C.C.S.D.&R.G.N.G. Survey, Upton County.

There were nine locations and five completions reported in the district during the week. All new work started being in proven areas.

RANGER AND WICHITA FALLS

Approximately 70 per cent of the rotary operations in the Wichita Falls district are shut down for lack of water. Locations fell from 67 last week to 29 this week. Only 32 tests were completed; last week there were 58 completions.

H. L. Singleton, of Graham, has assembled an 800-acre block centering around the A. B. Ledbetter Survey, Abstract 1,689, in Young County, and is to put down a 4,300-foot cable tool test within 60 days. There are three tests drilled on offset or nearby acreage, all of which had good showings of oil and gas. A north offset was drilled to 3,937 feet, another nearby went to 3,954 feet, and another was abandoned at 4,216 feet.

Nash and Windfohr's No. 13 Graham-Vick, southeast corner of the Allen Hines Survey No. 5, ran 6⅝-inch casing at 2,490 feet and filled up 1,800 feet in 12 hours. It is estimated good for 80 bbls. per day, producing from the stray sand picked up previously by the same operators' No. 12 on the lease. Same operators' No. 6 Graham-Vicks is producing from the 2,700-foot pay.

Humble Oil & Refining Co. is to drill a 1,000-foot test to the shallow gas sand, on its 20,000-acre block in Throckmorton County, and after completing its deep test 22 miles northeast of Childress in Childress County, it will move the heavy rotary rig to the Throckmorton block to drill a 6,000-foot test. This will be an exceptionally interesting test. The Swenson Land & Cattle Co. drilled a 5,981-foot dry hole six years ago on its fee lands 8½ miles north of the Humble block.

Iron Mountain Oil Co., of Fort Worth, is to drill a 3,250-foot test on a 2,900-acre block in Block L, H.&T.C. Survey, in the northeastern part of Fisher County, and approximately 7½ miles northwest of Hamlin. It will be about 2½ miles west of the nearest production. Alfred Beck, geologist of Tulsa, and G. M. Piggot, formerly land man for the Shell Petroleum Corp., are interested in the test.

Kouri Brothers, of Wichita Falls, are to drill a test 15 miles northwest of Crowell in Foard County, on a block centering around the F. D. Hendrix estate. The test will be carried to 3,500 feet if oil in commercial quantities is not struck above that point. This test will make the fourth wildcat in the county, one to be drilled near the small Thalia Pool.

Pipe line runs from the district averaged 62,215 bbls. for the week, around 1,600 bbls. more per day than the previous week's figures show.

PANHANDLE FIELD

The largest number of completions registered in any one week during the year was reported from the Panhandle this week. Twenty-three tests were on the completion report, while two locations were abandoned. Two of the completions were gas wells, the others being oilers, although having an initial production of only 5,360 bbls. There were 15 locations reported in the district which is showing more activity each week with western Wheeler County the busiest area at present due to several large wells completed in the trend.

Production in the district averaged 63,600 bbls. during the week, an increase of 2,975 bbls. per day over the past week.

COMPLETIONS IN WEST TEXAS DISTRICT

Andrews County

Fuhrman Petroleum Corp.'s No. 1-B Bonner, top pay 4,242-4,493 feet, initial production 525 bbls. in 24 hours, total depth 4,493 feet.

Ector County

Landreth Production Co.'s No. 1 Holt, top pay 4,267-4,312 feet, initial production 243 bbls. in 24 hours, total depth 4,312 feet. E. J. McCurdy and others' No. 1 Foster, top pay 3,880-4,235 feet, initial production 15 bbls. in 24 hours, total depth 4,280 feet.

Ward County

Farrell & Co.'s No. 3 Pure-Bennett, top pay 2,292-2,554 feet, initial production 508 bbls. in 24 hours, total depth 2,554 feet. Gulf Production Co.'s No. 47 O'Brien, top pay 2,532-2,750 feet, initial production 462 bbls. in 24 hours, total depth 2,750 feet.

COMPLETIONS IN NORTH TEXAS DISTRICT

Archer County

Bridwell Oil Co.'s No. 6-C Falls County, lime 1,117-26 feet, initial production 50 bbls., total depth 1,126 feet. Continental Oil Co. and others' No. 15 Falls County, lime 1,106-17 feet, initial production 300 bbls., total depth 1,117 feet. James N. Crofton's No. 6 Logan, abandoned location. Fain and McGaha's No. 14 Green, lime 1,168-88 feet, initial pro-

(Continued on Page 57)

Wildcat Operations in West Texas

Week Ending July 23

ANDREWS COUNTY

Honolulu and Llano Oil Co.'s No. 1 J. E Parker, 1,320 ft. from S line and 1,470 ft. from W line of Sec. 7, Blk. A-44, P.S.L. Sur.
Drlg. 1,625 ft.

Humble Oil & Ref. Co.'s No. 1 B. S. Walker, 660 ft. from E line and 660 ft. from S line of Sec. 6, Blk. A-43, P.S.L. Sur.
Derrick.

Humble Oil & Ref. Co.'s No. 1 R. M. Means, 660 ft. from N and 660 ft. from E of Sec. 2, Blk. 2-35, P.S.L. Sur.
Drlg. 4,196 ft.

Humble Oil & Ref. Co.'s No. 1 Kuykendall, 1,920 ft. from S and E lines of Sec. 24, Blk. A-46, P.S.L. Sur.
Cleaning out; T.D. 4,511 ft.

BORDEN COUNTY

Continental Oil Co.'s No. 1 Johnson, 660 ft. from S line and 660 ft. from E line of Sec. 34, Blk. 33, Twp. 4n, T.&P. Sur.
Drlg. 1,610 ft.

BREWSTER COUNTY

Joiner-McIntyre's No. 1, 853 ft. from S, 2,390 ft. from E of Sec. 31, Blk. 352, W. M. Mitchell Sur.
Drlg. 1,755 ft.

COKE COUNTY

Wm. Hooper's No. 1 Gaston, 240 ft. from S line and 654 ft. from W line of Joseph Sur. No. 11.
Underreaming 2,560 ft.

CRANE COUNTY

Brandon et al's No. 1 J. Cowden, 330 ft. from N and 330 ft. from W line of Sec. 13, Blk. X, C.C.S.D.&R.G.N.G. Sur.
Drlg. 2,990 ft.

Gulf Prod. Co.'s No. 1 E. M. Snodgrass, 1,320 ft. from N and 1,320 ft. from W line of Sec. 1, Blk. B-25, P.S.L. Sur.
Drlg. 1,230 ft.

Texas Co.'s No. 25 King, 1,595 ft. from E line, 2,700 ft. from E line, Sec. 85, Blk. 4, C.C.S.D.&R.G.N.G. Sur.
Location.

Wahlenmaier Pet. Corp.'s No. 1 W. P. Edwards, 330 ft. from N and 330 ft. from E of SW cor. of the NE of Sec. 12, Blk. B-23, P.S.L. Sur.
Shot.

CROCKETT COUNTY

J. D. Young's No. 1 Shannon, 330 ft. from W line, 330 ft. from N line of Sec. 35, Blk. 1, G.C.&S.F. Sur.
S.D. 2,635 ft.

CULBERSON COUNTY

Anderson-Pritchard Oil Corp.'s No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 125 ft.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.
S.D. 1,062 ft.

DAWSON COUNTY

Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 1,375 ft.

ECTOR COUNTY

Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.
To straighten crooked hole; T.D. 1,180 ft.

Continental Oil Co.'s No. 2 O. B. Holt, 1,980 ft. from S line and 1,980 ft. from W line of Sec. 20, Blk. A, P.S.L. Sur.
Drlg. 3,764 ft.

C. J. Davidson et al's No. 1 Cole, 660 ft. from N line and 660 ft. from W line of Sec. 10, Blk. 45, Twp. 1n, T.&P. Sur.
Flowed 62 bbls. after shot; T.D. 4,509 ft.

Harrison et al's No. 2 Addis, 990 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
S.D. 3,845 ft.

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
Location.

Humble Oil & Ref. Co.'s No. 3 Jones, 2,310 ft. from S and 2,310 ft. from W, Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur.
Drlg. 1,015 ft.

Humble Oil & Ref. Co.'s No. 1 H. H. Pegues, 2,310 ft. from E and 2,310 ft. from S, Sec. 37, Blk. 43, Twp. 2s, T.&P. Sur.
Rig up.

Landreth Prod. Co.'s No. 2-A Texas Pacific Land Trust, 441 ft. from N line and 440 ft. from W line of Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 3,805 ft.

Landreth Prod. Co.'s No. 1-B T. P. Land Trust, 2,200 ft. from the S line and 440 ft. from the W line of Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur.
Flowed 435 bbls. of oil per day; T.D. 4,204 ft.

(Continued on Page 60)

East Texas Potentials 20 to 25 Per Cent Lower; Continued Activity at Cayuga and Rusk Area

By L. E. BREDBERG

DALLAS, Tex., July 23.—Runs to refineries in the East Texas Field averaged 73,560 bbls. per day during the past week, or 7,000 bbls. per day more than the previous week. Trunk line runs from the field averaged 485,500 bbls. per day, or nearly 24,000 bbls. per day more than the previous week. There had been 35 refineries shut down in the field but this week's report shows only 26, 9 having started up. Total daily average deliveries over and above reported production were 93,535 bbls., or over 29,000 bbls. per day more than the previous report. Tank car shipments from the district also gained, 411 per day this week compared with 240 per day last week. The demand for East Texas crude is evidently increasing.

There were 82 locations staked in the field this week with 87 completions, bringing the total number of producers to over 14,000. Of the 87 wells completed 49 were drilled in by smaller operators, some of the wells looking as if their locations had been exceptions to the spacing rule.

Engineers of the Railroad Commission have completed potential tests in the field. These tests show the potentials to be from 20 to 25 per cent lower than when taken about a year ago. Many of the wells still gauge large potentials, one well owned by Humble Oil & Refining Co. about 1 or 1½ miles east of Gladewater, and in what might be called the semiheavy potential area, was rated good for 9,000 bbls. when gauged. However, many operators and company men are of the opinion that potential tests are not the best indicators of what wells and a field would do if allowed to produce open for any length of time.

Cayuga Field

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Royall and Cone, in the Thomas Bristow Survey, about 2¼ miles north of the Cayuga discovery, appears as a defining test for that pool. It was drilling in shale at 4,370 feet according to the latest reports, with no showing of oil and gas. It is the first failure on the block held by the two companies.

The same companies' No. 1 N. N. Wills, in the M. H. Johns Survey, north of the discovery, also looked like a dry hole after testing salt water at 4,107 feet. It was plugged back to 4,074 feet and will probably be completed as a gasser. These two tests bring the limits of the field still closer in unless tests drilling on the west and southwest and a test on the extreme south extend the field in those directions.

Two interesting west and southwest tests are drilling across the river from the field, in Freestone County. American Liberty Oil Co. is down 2,450 feet on its Trinity farm test in the J. B. Bonham Survey, and Trinity Farm Co. is down 2,400 feet in its No. 1 fee, farther to the south, in the R. M. Williamson Survey. These are the two most interesting tests drilling at present as their results have an important bearing on the outcome of the field.

Tide Water Oil Co. and Texas Seaboard Oil Co. have made an interesting location on the M. H. Sullenberger lands in the William Snider Survey, approximately 3 miles south of the discovery. This will either hedge the field on the south or extend it. The two companies holding the large block surrounding the discovery made locations for six tests this week.

Another wildcat location was staked in Anderson County this week. It is Canadian Production Co.'s No. 1 R. M. Jackson, in the W. C. Caldwell Survey, approximately midway between Saline and Tennessee Colony on the west side of the county.

Cherokee County

Roy Gholson, of Houston, and others have made a location 2 miles south of the Rusk discovery of Wood and others in Cherokee County, and the play has shifted to the south of the producer, companies paying as high as $500 cash and $500 in oil for leases in that area. Humble Oil & Refining Co., Magnolia Petroleum Co. and Texas Co. purchased acreage around the test which is to spud at once.

Wood and others are drilling at 3,250 feet in shale in their north offset to the discovery well in Cherokee County. Another test is proposed by Sun Oil Co. on acreage to the northeast of the discovery.

Milhoan Drilling Co. has made location and has a rig up on the O. R. Perkins 164-acre tract in the J. M. Martinez Survey and Smith and McCras have spudded their No. 1 Tipps in the J. B. Heath Survey, both in Cherokee County. This county is the most popular in the East Texas district at present. The Rusk area will soon be proven as a field of major or minor importance if the tests now drilling and starting, and those proposed are carried down without lengthy delays.

Navarro County

The Trinity sand test of Wheelock and Collins in the Corsicana-Powell Pool, Navarro County, is drilling at 4,700 feet in lime. Peyton Brothers' Trinity sand test in the Mexia Field, Limestone County, is on the Jake Stubenrauch farm. The operators are from Mexia. Another Trinity sand test on this farm, drilled by E. L. Smith Oil Co. of Mexia, made 8,000,000 feet of gas when drilled in May, 1927, a spray of oil also developing, consequently chances for making a Trinity producer out of the present location are considered exceptionally good. A heavy rotary rig has been rigged up.

Three other counties got locations during the week. Hunt County's new location is on the Amelia Barnett farm in the J. C. Hamer Survey; the Red River County location is on the E. H. Thompson farm in the E. Smith Survey and is to be drilled by Cornell and Spears. W. E. Brown is to drill a test on land owned by the Bank of Edgewood, in the M. B. Lout Survey, Van Zandt County.

Four wildcats, two in Hunt County, were placed on the abandoned report this week.

Van Field

Hearing on the Van Field, scheduled for July 19, for the purpose of discussing a change in the method of allocating production, caused when J. D. Wrather, owner of a new outpost producer, filed suit in Federal Court claiming the present method invalid because it does not give consideration to potentials of wells, has been postponed indefinitely by the Railroad Commission. Federal Judge Randolph Bryant refused to enjoin the commission's order until the commission held a hearing. Other operators objected to the open flow method of taking potentials when the commission contemplated making open flow tests. Mr. Wrather has an allowance of 250 bbls. for his well which is to continue until the commission holds a hearing and decides on changing the method of allocating, if any is to be made. Mr. Wrather is now drilling a test approximately 800 feet farther northeast from the field.

Pure Oil Co. abandoned two tests this week. One was No. 5 A. G. Maxfield and the other No. 11 W. A. (Ella) York in the Carroll district. The former's total depth is 3,050 feet and the latter was plugged at 2,994 feet after swabbing salt water. The company made two more locations in the field in which there are only four tests going down at present.

COMPLETIONS IN EAST TEXAS

North Gregg County

Adams and Lyle's No. 10 T. Anderson, top sand 3,480 feet, initial production 83 bbls. per hour through open tubing, total depth 3,500 feet. Arkansas Fuel Oil Co.'s No. 26 Burnside, top sand 3,471 feet, initial production 45 bbls. in one-half hour through open tubing, total depth 3,496 feet; No. 1 Killingsworth, top sand 3,615 feet, initial production 25 bbls. in 25 minutes through open tubing, total depth 3,635 feet; No. 8 Rembert, top sand 3,457 feet, initial production 35 bbls. in one-quarter hour through open tubing, total depth 3,481 feet. Atlantic Oil Producing Co.'s No. 28-A Burnside, top sand 3,514 feet, initial production 65 bbls. in one-half hour through open tubing, total depth 3,536 feet; No. 56 J. Moore, top sand 3,530 feet, initial production 68 bbls. in one-half hour through open tubing, total depth 3,555 feet; No. 58 J. Moore, top sand 3,518 feet, initial production 65 bbls. in one-half hour through open tubing, total depth 3,542 feet; No. 60 J. Moore, top sand 3,508 feet, initial production 70 bbls. in one-half hour through open tubing, total depth 3,540 feet.

C. & G. Oil Co.'s No. 15 Harris, top sand 3,455 feet, initial production 94 bbls. in 55 minutes through open tubing, total depth 3,486 feet. Deep Rock Oil Co.'s No. 10 Jones, top sand 3,570 feet, initial production 75 bbls. per hour through open tubing, total depth 3,636 feet. Dyck Oil Co.'s No. 9 Christian, top sand 3,574 feet, initial production 24 bbls. in one-quarter hour through open tubing, total depth 3,615 feet. Garrett and Groneman's No. 1 Thrasher, top sand 3,608 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,608 feet. H. F. Kimbrell's No. 2 Tennery, top sand 3,650 feet, initial production 15 bbls. in one-quarter hour through 1-inch tubing choke, total depth 3,655 feet. Joe Long Drilling Co.'s No. 1-C W. Owens, top sand 3,613 feet, initial production 75 bbls. per hour through open tubing, total depth 3,635 feet.

Charles Pettit's No. 6 M. O. Sheppard, top sand 3,542 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,590 feet. Selby and Lewis' No. 11-A Snavely heirs, top sand 3,585 feet, initial production 37 bbls. in one-half hour through open tubing, total depth 3,600 feet; No. 2-D Snavely heirs, top sand 3,570 feet, initial production 42 bbls. in one-half hour through open tubing, total depth 3,584 feet; No. 7-D Snavely heirs, top sand 3,581 feet, initial production 46 bbls. in one-half hour through open tubing, total depth 3,593 feet. Shasta Oil Co.'s No. 4-B Rickey, top sand 3,540 feet, initial production 22 bbls. in one-quarter hour through open tubing, total depth 3,577 feet. Sinclair Prairie Oil Co.'s No. 16 M. Lawson, top sand 3,500 feet, initial production 34 bbls. in one-quarter hour through open tubing.

East Central Texas Wildcats

Week Ending July 23

ANDERSON COUNTY

Barnsdall Oil Co.'s No. 1 Loper, 467 ft. from N and W lines of 40-ac. tract, 1 mile SW of Cayuga, James Wilson Sur.
Drlg. 3,460 ft.

Canadian Production Co.'s No. 1 R. M. Jackson, 1,250 ft. from NE cor. and 3,058 ft. from SE cor. of survey and tract, W. C. Caldwell Sur.
Moving in.

H. L. Hunt's No. 1 C. A. Miller, 1,120 ft. from SE line and 1,120 ft. from SW line of 196.6-ac. tract, 1 mile S of Tucker, S. Sanchez Sur. No. 2-19.
Rig up.

J. A. Johnson et al's No. 1 Mrs. N. B. Huffman, 1,650 ft. from W line and 2,700 ft. from S line of survey, 10 miles NW of Palestine, R. S. Patton Sur.
Rig up.

Stanolind Oil & Gas Co.'s No. 1 Loper, 483 ft. S and 466 ft. E of NW cor. of 40-ac. tract, James Wilson Sur.
Location.

Sun Oil Co.'s No. 1 Erskine, 200 ft. from S line of survey and 3,000 ft. from Trinity River, Samuel C. Box Sur., SW part of county.
S.D. 3,590 ft.

Texas Seaboard Oil Co.'s No. 3 Edens, 467 ft. from N and E lines of tract, Samuel Snyder Sur.
Drlg. plug; T.D. 4,084 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 J. A. Campbell, 1,260 ft. from N line and 440 ft. from W line of 243-ac. tract, James Wilson Sur.
Waiting on gauge; T.D. 4,084 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Royal and Cone, 467 ft. from S line and 1,533 ft. from E line of 32-ac. tract, Thomas Bristow Sur.
T.D. 3,900 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 4 Edens, 2,571 ft. from N line and 467 ft. from E line of tract, Samuel Edmondson Sur.
Waiting on cmt. to set; T.D. 4,065 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Robertson, 633 ft. from W line and 467 ft. from N line of lease, Samuel Snider Sur.
Clearing location.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1-B Virginia Wills (Boyer), 467 ft. from S and E lines of lease, M. H. John Sur.
Plugged back to 4,074 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1-C N. N. Wills, 477 ft. from S line and 467 feet from W line of tract, Thomas Bristow Sur.
Location.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 V. W. Bowyer, 467 ft. from E line and 1,240 ft. from S line of 300-ac. tract, M. H. Johns Sur.
Rig up.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 6 Edens, 419 ft. from N line, 1,400 ft. from E line of lease, S. Snyder Sur.
Location.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Rampy, 1,256 ft. from N line and 1,375 ft. from E line of 158.66-ac. lease, J. Wilson Sur.
Rig up

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Robertson, 633 ft. from W line of tract and 467 ft. from N line of lease, S. Edmondson Sur.
Location.

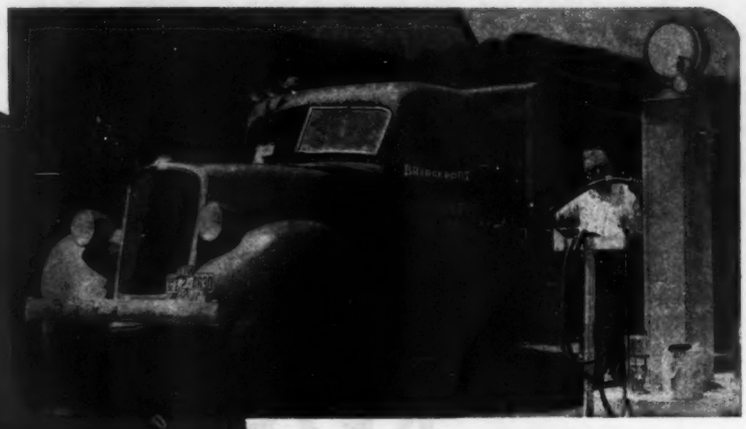
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 M. H. Sullenberger, 1,541 ft. S of most northerly N line and 1,400 ft. W of most easterly E line of lease, Wm. Snyder Sur.
Rig up.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 7-A N. W. Willis, 2,277 ft. from N line and 5,467 ft. from W line of lease, S. Edmondson Sur.
Location.

CHEROKEE COUNTY

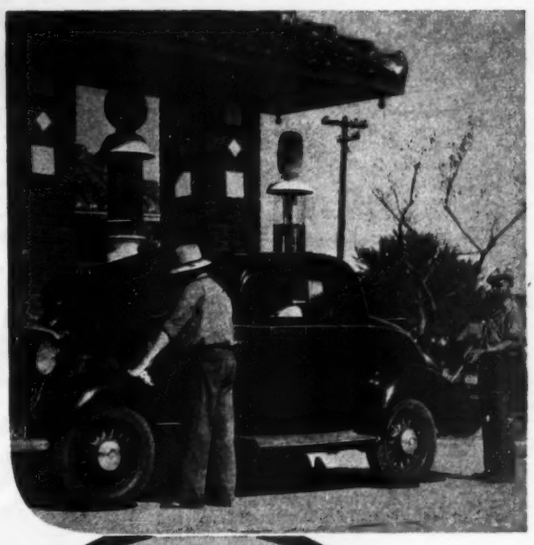
Gholson et al's No. 1 Southern Pine Lumber Co., 330 ft. out of NW cor. of 80-ac. tract, N. Newton Sur.
Location.

(Continued on Page 60)



GOOD CUSTOMERS

Every Hour Of The Day And Night A BRIDGEPORT Car Or Truck Drives Up To Someone's Filling Station For Oil And Gas



DOZENS of Bridgeport field cars are "making-miles" every minute of the day—

A fleet of Bridgeport trucks are "on-the-go" day and night, moving heavy equipment hundreds of miles—

High speed machinery in Bridgeport's factory and machine shops "eat-up" barrels of lubricating oils—

Our men either pay cash or carry personal accounts, therefore the Bridgeport name may not appear on your books. However, our cars, trucks and machinery, and the cars of Bridgeport employees, are "good customers" for the products of the oil producer.

● IN RETURN WE'LL APPRECIATE THE OPPORTUNITY OF SUPPLYING A PORTION OF YOUR PIPE REQUIREMENTS. A FEW CARS A MONTH OR EVEN A CAR NOW AND THEN WILL HELP YOUR BUSINESS AND OURS

IT'S EASY TO ORDER PIPE FROM BRIDGEPORT

SIMPLY PICK UP THE TELEPHONE AND CALL BRIDGEPORT, STATION-TO-STATION —C-O-L-L-E-C-T at Wichita, Kansas, or our nearest branch store or sales office.

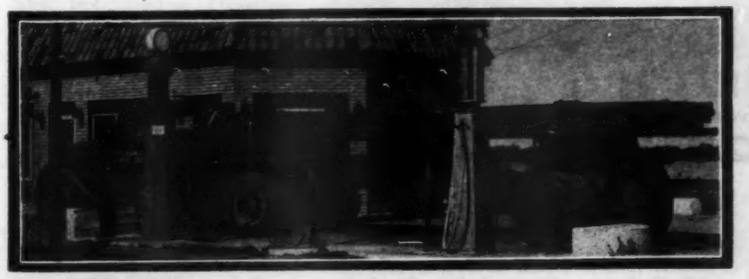
We'll have the loading under way within an hour.

Mill, Memphis or stock deliveries.

We Distribute

NATIONAL TUBE

CASING—DRILL PIPE—TUBING—LINE PIPE



BRIDGEPORT MACHINE COMPANY

MANUFACTURERS DISTRIBUTORS

OIL DRILLING-FISHING AND PRODUCTION EQUIPMENT

GENERAL OFFICE AND WORKS: WICHITA, KANSAS

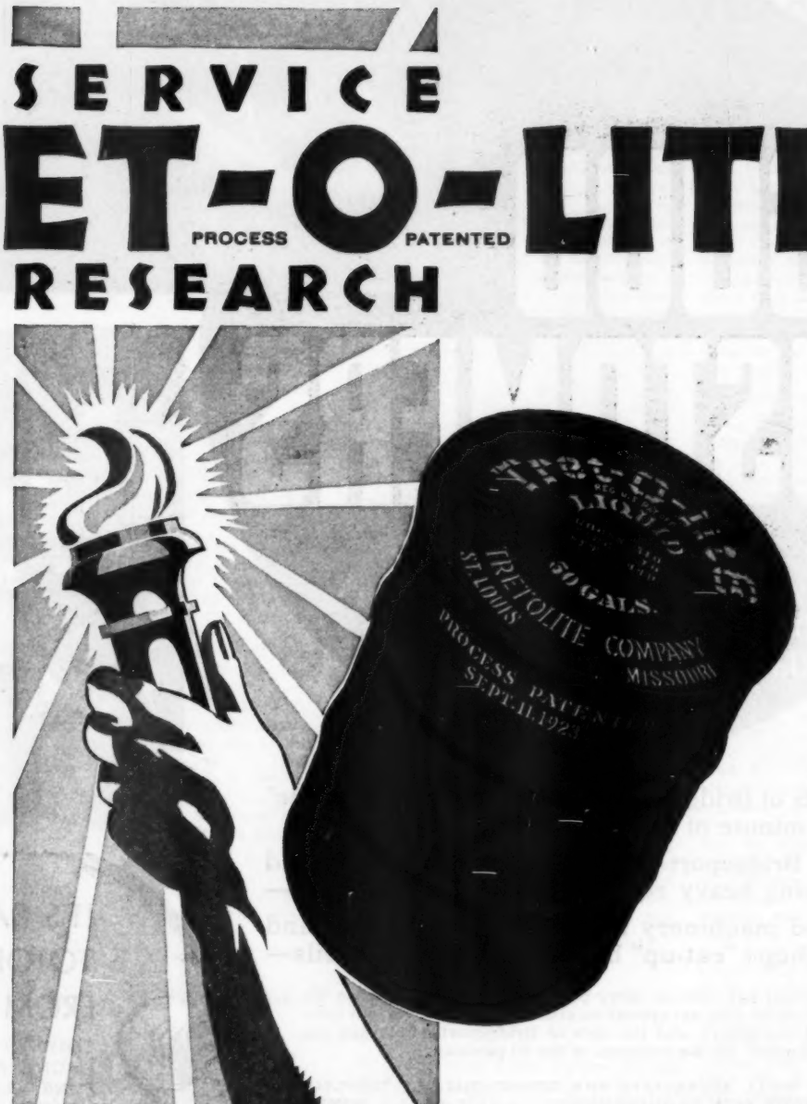
BRANCH STORES: ACTIVE MID-CONTINENT AND GULF COAST FIELDS

SERVICE

TRET-O-LITE

PROCESS PATENTED

RESEARCH



Your crude oil treating problems are thoroughly understood by our research and service organizations. The Tretolite Company offers an efficient field service to production men. Our service functions alike for the small as well as the large consumer.

TRETOLITE COMPANY

MANUFACTURING CHEMISTS

Representatives in all principal fields

DALLAS ST. LOUIS, MO. LOS ANGELES

total depth 3,537 feet. Washington Oil Corp.'s No. 6 Cobb, top sand 3,500 feet, initial production 45 bbls. in one-half hour through open tubing, total depth 3,562 feet. Yount Lee Oil Co.'s No. 10 Flemister, top sand 3,560 feet, initial production 65 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,580 feet; No. 5 J. Snoddy, top sand 3,528 feet, initial production 60 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,548 feet.

South Gregg County

Atlantic Oil Producing Co.'s No. 12 Whatley, top sand 3,534 feet, initial production 100 bbls. per hour through open tubing, total depth 3,640 feet. Byrd-Frost, Inc.'s No. 4-A J. B. Watson, top sand 3,555 feet, initial production 76 bbls. in one-half hour through open tubing, total depth 3,613 feet. Gulf Production Co.'s No. 24 H. C. Alexander, top sand 3,519 feet, initial production 70 bbls. per hour through open tubing, total depth 3,549 feet; No. 23 Brown, top sand 3,489 feet, initial production 60 bbls. per hour through open tubing, total depth 3,515 feet. Houston Oil Co.'s No. 5 M. T. Cole, top sand 3,550 feet, initial production 75 bbls. per hour through open tubing, total depth 3,560 feet. Idaho Oil Co.'s No. 2 Dickson, top sand 3,546 feet, initial production 19 bbls. by heads, total depth 3,560 feet. Invincible Oil Co.'s No. 2 Williams, top sand 3,566 feet, initial production 80 bbls. per hour through open tubing, total depth 3,586 feet.

Magnolia Petroleum Co.'s No. 6 Laird and Crim, top sand 3,550 feet, initial production 116 bbls. per hour through open tubing, total depth 3,559 feet. Patrick Production Co.'s No. 4 J. B. Watson, top sand 3,580 feet, initial production 18 bbls. in 10 minutes through open tubing, total depth 3,657 feet. Albert Plummer's No. 7 Beall, top sand 3,681 feet, initial production 78 bbls. per hour through open tubing, total depth 3,686 feet. Root and Rhodes' No. 3 Adkins, top sand 3,662 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,670 feet. M. C. Schelle's No. 7-A Sabine River, top sand 3,525 feet, initial production 40 bbls. in 40 minutes through 1-inch tubing choke, total depth 3,556 feet. Shell Petroleum Corp.'s No. 11 Bates, top sand 3,554 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,612 feet. Stanolind Oil Co.'s No. 2 Davey, top sand 3,540 feet, initial production 125 bbls. per hour through open tubing, total depth 3,558 feet. Stroube and Stroube's No. 2 Powderhorn School, top sand 3,566 feet, initial production 25 bbls. in 20 minutes through open tubing, total depth 3,600 feet. Sun Oil Co.'s No. 5 Ed Smith, top sand 3,629 feet, initial production 75 bbls. per hour through open tubing, total depth 3,663 feet. Trans-State Oil Co.'s No. 2 W. Smith, top sand 3,533 feet, initial production 90 bbls. per hour through open tubing, total depth 3,560 feet.

North Rusk County

Gulf Production Co.'s No. 10 Peterson, top sand 3,657 feet, initial production 75 bbls. per hour through open tubing, total depth 3,685 feet; No. 11 Peterson, top sand 3,616 feet, initial production 77 bbls. per hour through open tubing, total depth 3,542 feet. Henderson & Helden's No. 2 Terrell, top sand 3,645 feet, initial production 25 bbls. in one-quarter hour through tubing choke, total depth 3,647 feet. Houston Production Co.'s No. 4 Brightwell, top sand 3,550 feet, initial production 25 bbls. in 10 minutes through open tubing, total depth 3,560 feet. Humble Oil & Refining Co.'s No. 114 L. D. Crim, top sand 3,610 feet, initial production 93 bbls. per hour through open tubing, total depth 3,627 feet; No. 119 L. D. Crim, top sand 3,638 feet, initial production 122 bbls. per hour through open tubing, total depth 3,642 feet; No. 10-A J. T. Sexton, top sand 3,612 feet, initial production 45 bbls. per hour through open tubing, total depth 3,695 feet.

Smith County

A. McCutcheon's No. 2 T. Stone, top sand 3,787 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,789 feet; No. 4 T. O. Wright, top sand 3,700 feet, initial production 45 bbls. in 33 minutes through open tubing, total depth 3,712 feet. W. H. McMurray's No. 7 C. A. Turner, top sand 3,790 feet, initial production 75 bbls. per hour through open tubing, total depth 3,791 feet. Weaver-Perry's No. 9 Wright, top sand 3,695 feet, initial production 100 bbls. per hour through open tubing, total depth 3,697 feet. J. S. Wheelis' No. 9 J. J. Smith, top sand 3,684 feet, initial production 120 bbls. per hour through open tubing, total depth 3,695 feet.

South Rusk County

Ajo Oil Co.'s No. 4-B Joe Lee, top sand 3,754 feet, initial production 35 bbls. in 41 minutes through open tubing, total depth 3,761 feet. M. E. Florence's No. 1 Thompson, top sand 3,716 feet, initial production 20 bbls. per hour through open tubing, total depth 3,775 feet. Arkansas Fuel Oil Co.'s No. 8 Wheelis, top sand 3,669 feet, initial production 19 bbls. in one-quarter hour through open tubing, total depth 3,702 feet. Atlantic Oil Producing Co.'s No. 2-D Strickland, top sand 3,603 feet, initial production 19 bbls. per hour through open tubing, total depth 3,672 feet; No. 3-D Strickland, top sand 3,583 feet, initial production 19 bbls. per hour through open tubing, total depth 3,649 feet; No. 7-D Strickland, top sand 3,619 feet, initial production 30 bbls. per hour swabbing, total depth 3,680 feet. Butler and Calhoun's No. 3 F. J. Cox, top sand 3,610 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,681 feet.

Deep Rock Oil Co.'s No. 7 Holland, top sand 3,623 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,698 feet. East Texas Petroleum Co.'s No. 1 W. L. Arnold, top sand 3,635 feet, initial production 20 bbls. in two hours, total depth 3,685 feet. Gulf Production Co.'s No. 29 Turner, top sand 3,731 feet, initial production 70 bbls. per hour through open tubing, total depth 3,740 feet. Haynes Drilling Co.'s No. 12 Lee, top sand 3,614 feet, initial production 40 bbls. in 20 minutes through open tubing, total depth 3,644 feet. Humble Oil & Refining Co.'s No. 45-A Kangerga, top sand 3,633 feet, initial production 150 bbls. per hour through open tubing, total depth 3,672 feet; No. 12 Pilgreen, top sand 3,679 feet, initial production 80 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,771 feet; No. 45 W. L. Price, top sand 3,682 feet, initial production 58 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,724 feet; No. 42-A Silvey, top sand 3,630 feet, initial production 75 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,718 feet; No. 44-A R. E. L. Silvey, top sand 3,608 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,713 feet.

Hunt Production Co.'s No. 8 Wooley, top sand 3,673 feet, initial production 25 bbls. in 21 minutes through open tubing, total depth 3,749 feet. Jenkins Oil Co.'s No. 13 Jobe, top sand 3,593 feet, initial production 100 bbls. per hour through open tubing, total depth 3,682 feet.

Maybee Consolidated Corp.'s No. 10 W. F. Butt, top sand 3,684 feet, initial production 25 bbls. in 40 minutes through open tubing, total depth 3,626 feet; No. 5 S. Stone, top sand 3,620 feet, initial production 40 bbls. in 40 minutes through open tubing, total depth 3,641 feet. Federated Oil Co.'s No. 3 Holland, top sand 3,646 feet, initial production 70 bbls. per hour through open tubing, total depth 3,708 feet. Magnolia Petroleum Co.'s No. 4 W. W. Holland, top sand 3,642 feet, initial production 12 bbls. in one-quarter hour through open tubing, total depth 3,710 feet; No. 15 T. O. Mason, top sand 3,618 feet, initial production 6 bbls. in 10 minutes through open tubing, total depth 3,665 feet.

Mid-Kansas Oil & Gas Co.'s No. 71 Grissom, top sand 3,650 feet, initial production 98 bbls. per hour through open tubing, total depth 3,671 feet. Miller Production Co.'s No. 3 Bradford, top sand 3,529 feet, initial production 27 bbls. in one-half hour through open tubing, total depth 3,640 feet; No. 7 Bradford, top sand 3,515 feet, initial production 20 bbls. in one-half hour through open tubing, total depth 3,618 feet. Oils Production Co.'s No. 7 Harmon, top sand 3,777 feet, initial production 70 bbls. per hour through open tubing, total depth 3,820 feet. Olson Brothers and Johnson, top sand 3,681 feet, initial production 55 bbls. in one-quarter hour through open tubing, total depth 3,681 feet. Sayre Oil Co.'s No. 6 Cansler, top sand 3,760 feet, initial production 125 bbls. per hour through open tubing, total depth 3,788 feet. Texas Co.'s No. 17 Kirsch, top sand 3,622 feet, initial production 90 bbls. per hour through open tubing, total depth 3,624 feet.

Upshur County

East Texas Petroleum Co.'s No. 16 D. F. Smith, top sand 3,574 feet, initial production 20 bbls. in 12 minutes through open tubing, total depth 3,587 feet. J. C. Farvey's No. 23 Bady, top sand 3,767 feet, initial production 103 bbls. per hour through open tubing, total depth 3,773 feet. C. H. Lyons and others' No. 7 T. J. Dunbar, top sand 3,612 feet, initial production 50 bbls. per hour through open tubing, total depth 3,651 feet. B. F. Phillips' No. 3 Brooks, top sand 3,610 feet, initial production 20 bbls. per hour through open tubing, total depth 3,620 feet. Sabinas Oil Corp.'s No. 14-C Collins, top sand 3,700 feet, initial production 20 bbls. in one-half hour through 1-inch tubing choke, total depth 3,723 feet. E. L. Smith's No. 7 F. A. Watts, top sand 3,592 feet, initial production 20 bbls. in 19 minutes through three-quarters inch tubing choke, total depth 3,605 feet. General Crude Oil Co.'s No. 4 L. Graves, top sand 3,679 feet, initial production 18 bbls. in one-quarter hour through open tubing, total depth 3,679 feet.

WILDCAT COMPLETIONS

Hunt County

H. S. Waggoner's No. 1 Love, dry and abandoned, total depth 3,666 feet, J. Gilisby Survey. H. O. Shawver and others' No. 1 J. H. Jones, junked and abandoned, total depth 3,103 feet, L. Ferguson Survey.

Leon County

Sutton and Hawkins' No. 1 F. C. Wilson, dry and abandoned.

Smith County

Preston Rose and others' No. 1 Elisha Wiggins, dry and abandoned, total depth 4,528 feet, F. H. K. Day Survey.

Upshur County

Randerson and others' No. 1 Ned Minor, dry and abandoned, total depth 3,891 feet, D. R. Camon Survey.

West Texas Fields

(Continued from Page 53)

duction 300 bbls. pumping, total depth 1,188 feet. Fain and McGaha and Humble Oil & Refining Co.'s No. 40 Logan, lime 1,140-61 feet, initial production 300 bbls., total depth 1,161 feet. Grisham and Dillard's No. 1 Archer, dry and abandoned, total depth 2,390 feet. Pois and Schultz' No. 28 Green, lime 1,135-53 feet, initial production 350 bbls., total depth 1,153 feet. Fred Gyer's No. 1 Coffield, dry and abandoned, total depth 1,095 feet. Rathke Oil Co.'s No. 6-B Benson, oil sand 946-49 feet, initial production 25 bbls., total depth 949 feet. Staniforth and Ray's No. 1 Perkins, oil sand 1,598-1,603 feet, initial production 125 bbls., total depth 1,603 feet. Texas Co.'s No. 1 Luke and McCroy, dry and abandoned, total depth 1,606 feet. John F. Barton and others' No. 1 Whitaker, dry and abandoned, total depth 1,386 feet.

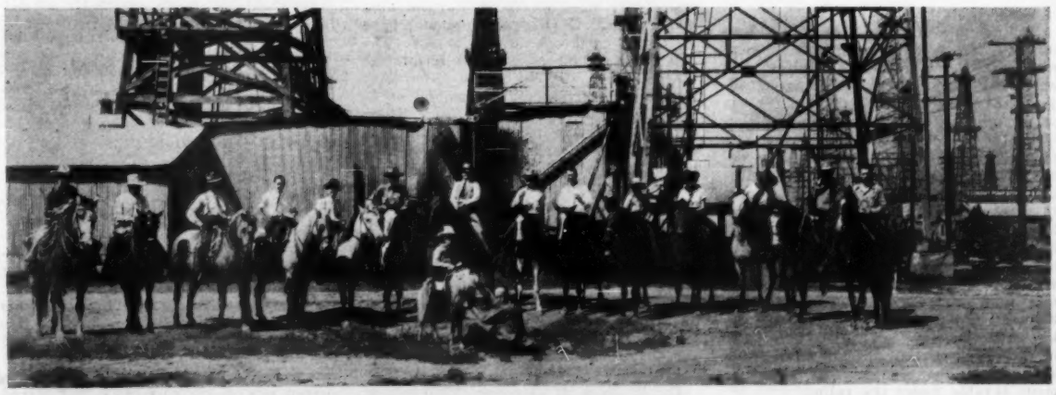
Montague County

Texas Co.'s No. 9 Roland, abandoned location.

Jack County

Huffine Motor Co. and Gilmore's No. 1 Henderson, dry and abandoned, total

Round Up Among the Rigs, Santa Fe Springs, California



This is not a picture of the "Last Round Up," it is the "First Round Up" of the Equestrian Elite of Santa Fe Springs, California. Everybody in Santa Fe Springs seems to have horse fever, and this is only part of the oil men who keep horses among the rigs. Those in the picture are: Julian Hathaway, Hathaway Oil Co.; G. P. Passons, Getty Oil Co.; Babe Allison, E. K. Allison Syndicate; Don Weaver, Supt. Wilshire Co.; E. L. Decker, Martin-Decker Corp.; Walter Kinch, Supt. for Olsen-Smith, Receivers; John Alford, Alford Pump Co.; H. L. Therolf, Eason-Therolf; J. H. Ryan, Ryan Oil Co.; J. S. Jamison; Ruth Samuelson, daughter of the Superintendent General Petroleum; Beth Innes; Bob Chambers Chambers Trucking Co.; Wayne Jackman, Star Bell Syndicate; P. T. Jameson, E. Santa Fe Oil Co., and M. Oglesby

depth 368 feet. W. H. Kerbrow's No. 1 Jackson, dry and abandoned, total depth 603 feet.

Wichita County

King Royalty Co.'s No. 2-H Waggoner, oil sand 1,550-62 feet, initial production 130 bbls., total depth 1,562 feet. W. D. McClure & Son's No. 1 Hobson, dry and abandoned, total depth 660 feet. E. J. Stump & Co.'s No. 1 Munger, lime 3,736-90 feet, initial production 118 bbls. on pump, total depth 3,889 feet.

Wilbarger County

Consolidated Oil Co.'s No. 4-T W. T. Waggoner, oil sand 1,862-80 feet, initial production 350 bbls. swabbing, total depth 1,880 feet; No. 5-T W. T. Waggoner, oil sand 1,870-87 feet, initial production 350 bbls., total depth 1,887 feet; No. 1-X W. T. Waggoner, oil sand 1,901-08 feet, initial production 25 bbls., total depth 1,908 feet; No. 12 W. T. Waggoner, oil sand 1,217-30 feet, initial production 85 bbls., total depth 1,230 feet. Hegralle Oil Co.'s No. 4-A W. T. Waggoner, oil sand 1,880-94 feet, initial production 200 bbls., total depth 1,894 feet. Merry Brothers and Perine's No. 1 W. T. Waggoner, dry and abandoned, total depth 1,956 feet. Staniforth and Ray's No. 2-B W. T. Waggoner, oil sand 1,927-33 feet, initial production 40 bbls., total depth 1,933 feet. E. P. Waggoner's No. 1-A W. T. Waggoner, oil sand 1,899-1,903 feet, initial production 20 bbls., total depth 1,903 feet. W. T. Waggoner's No. 2 W. T. Waggoner, oil sand 1,863-81 feet, initial production 120 bbls., total depth 1,881 feet. A. B. Wharton, Jr.'s No. 2-A W. T. Waggoner, oil sand 1,873-88 feet, initial production 310 bbls., total depth 1,888 feet.

Young County

Beavers, White and Duncan's No. 7 Remington-Belknap, lime 568-79 feet, initial production 15 bbls., total depth 579 feet; No. 8 Remington-Belknap, lime 595-606 feet, initial production 8 bbls., total depth 606 feet. E. F. Estergren's No. 1 Casey, dry and abandoned, total depth 755 feet. John H. Kleiner's No. 5 Graham, lime 584-95 feet, initial production 20 bbls., total depth 595 feet.

Possible Diesel Oil Tax Is Discussed by Refiners

Is Diesel oil for use in trucks subject to the federal gasoline tax of 1 cent a gallon? This question is being discussed by many refiners and petroleum association officers. The question arose when the Old Dutch Refining Co. of Muskegon, Mich., sent an inquiry to the American Petroleum Institute. Since then much thought has been given the issue, centering mainly on the interpretation of the Revenue Act of 1934 which deals with the taxation of gasoline. The approach to the argument is made through the legal interpretation of gasoline, as gasoline is taxable no matter what use is made of it.

The act in section 603 (c) defines gasoline as "all products commonly or commercially known or sold as gasoline" and also "any liquid of a kind prepared, advertised, offered for sale or sold for use as, or used as, a fuel for the propulsion of motor vehicles, motor boats, or airplanes." Fuel oil is then definitely excepted. Paragraph (a) is a clear definition of gasoline. Paragraph (b) relates to other fuels and adds "and any other liquid of a kind prepared, advertised, offered for sale or sold for use as, or used as, a fuel for the propulsion of motor vehicles, motor boats or airplanes; except that it . . . does not include kerosene, gas oil and fuel oil." If the last exception were not stated, Diesel oil, if prepared, advertised and offered for sale and used as a motor fuel, might be made taxable under the ruling.

The issue now narrows down to the classification of Diesel oil. It is practically No. 2 furnace oil and is placed under the head of fuel oil whenever listed. This logical solution has been reached by legal members of large oil companies and petroleum associations; that Diesel oil is not, at the present time, subject to taxing under the Revenue Act of 1934. Increased use of this fuel, to the extent of a decrease in gasoline consumption will, however, undoubtedly lead to revision of the act to include Diesel oil.

Disposal of Water After Use Important Factor

(Continued from Page 50)

The enzyme action is similar to that caused by yeast in fermentation of starch to alcohols, and the end of the sewage digestion reactions, like the fermentation reactions, could be ethyl alcohol and carbon dioxide.

The hydrolizing of glucose to iso-amyl alcohol and to ethyl alcohol, the nitrogen coming from the bacteria action, and the ammonia returning to the formation of

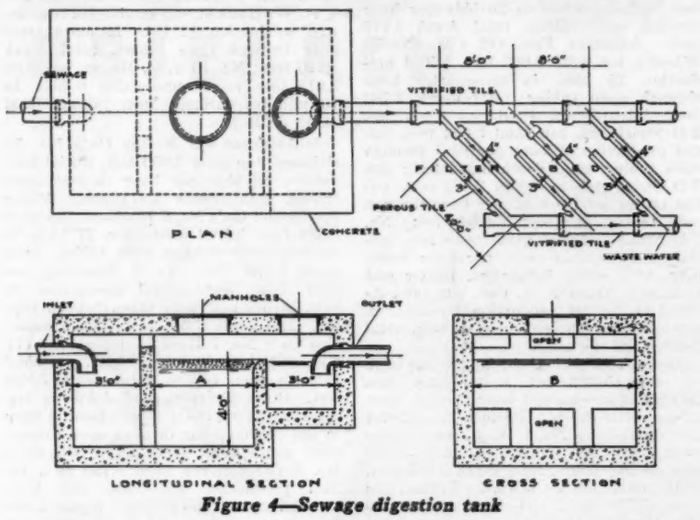


Figure 4—Sewage digestion tank

more mold, will illustrate the process of sewage digestion:

$$C_6H_{12}O_6 + 1/2\ N_2 + H_2O \rightarrow CH_3\ CH_2\ CH_2\ CHOH + (NH_3) + CO_2 + 2O_2$$

$$CH_3\ CH_2\ CH_2\ CH_2\ CHOH + O_2 \rightarrow 2\ C_2H_5OH + CO_2$$

However, what alcohols that would be obtained from sewage digestion is another matter, depending upon the organic matter present, such as cellulose, albumen, aldehydes, etc.; the bacteria of the ferment and mold groups; the amount of water; the quantity of ammo salts present or formed, and many other conditions uncontrollable as in fermentation for brewing or alcohol making.

Sizing of Tank and Filter Bed

For the proportions of the tank and of the filter bed, empirical sizes are suggested. The digestion chamber of the tank, marked A X B (Figure 4) should have 5-7 cubic feet volume per person. The filter bed should have 20-30 lineal feet of the 4-inch size drain tile. Note that there is a corresponding amount of 3-inch size drain tile used on the outflow from the filter bed. The amount of porous drain tile used should be governed by the kind of soil. Light sandy soil requires the minimum and heavy impervious soil might not only require the maximum amount of tile, but in addition, consideration might have to be given to filling sand or gravel about the tile. The tile may be installed just far enough below the surface to prevent damage to it by digging, plowing or by vehicles driven over the ground.

DOCTOR LEISERSON RESIGNS

Dr. William M. Leiserson, chairman of the Petroleum Labor Policy Board, tendered his resignation effective August 1 to return to his chair as professor of economics at Antioch College. Secretary Ickes accepted it with regret, saying: "We are faced with a serious problem in filling the vacancy. It is not expected it will be filled immediately. Doctor Leiserson has agreed to assist in mediation and arbitration cases on a temporary basis whenever he is called."

Doctor Leiserson, however, was immediately appointed by President Roosevelt a member of the Railway Labor Board, and, taking it as a command, accepted.

Many Pools Opened in First Half of the Year

(Continued from Page 28)

and Hobbs was extended a half mile. A small shallow pool in Lincoln County was the only definite discovery in Wyoming. In Montana the Cut Bank sand pay was extended about 8 miles. This field appears to be on an enormous structure, so far proven to be 2 to 3 miles wide, but 30 miles or more in length, how much more is not yet determined.

No New California Pools

No new pools were opened in California in the first half of the year, notwithstanding a lively six months of drilling in which 263 wells were completed, an increase of 116 over the same period last year. Exactly 100 more oil wells were completed than in the same period in 1933, but they were in the already established pools.

MR. ICKES ON VACATION

WASHINGTON, D. C., July 23.—Harold L. Ickes left Washington, Friday for a three weeks' vacation but will take with him a secretary to assist in discharging his numerous duties as Secretary of the Interior, PWA administrator and oil administrator. First Assistant Secretary of the Interior Theodore A. Walters will be acting secretary. In Mr. Ickes' absence he can not delegate his responsibilities as PWA chief or oil administrator. Neither the recovery act nor the oil code make provision for delegation of powers by the administrator. Necessary documents, however, will be signed subject to Mr. Ickes' approval upon his return to Washington.

G. H. STANSBURY DIES

NEW YORK, July 23.—George Herbert Stansbury, retired second vice president of the Standard Oil Co. of Kentucky, died of a heart attack at his summer home, New Dorp, Staten Island, last week after an illness of several weeks. He was 73 years old and had made his home in Louisville, Ky., for 30 years. He began work as a clerk for the Standard Oil Co. of New Jersey. In 1900 he was transferred to Kentucky. In 1904 he was elected second vice president and served in that capacity until 1924, when he retired.

DRILLING PRACTICES COMMITTEE

The Drilling Practices Committee for Texas, Louisiana and New Mexico Drilling Contracting Association has called an open meeting to be held in the Baker Hotel, Dallas, Tex., August 1, at 9:3 a.m., for the purpose of hearing cost data on the drilling of wells in the counties of Smith, Rusk, Gregg, Upshur and Cherokee, in Texas. All data must be submitted in writing and those desiring to submit data will notify D. E. Legan, chairman, East Texas Zone Subcommittee of Drilling Practices Committee for Texas, care of Tide Water Oil Co., Kilgore, Tex., prior to the opening hour of the hearing.

Engineer Recommends Reduction in East Texas

AUSTIN, Tex., July 23.—Reduction of the allowable production in East Texas to 400,000 bbls. daily was recommended by Gordon Griffin, petroleum engineer for the Texas Railroad Commission, at a statewide oil hearing. Griffin said the current legal production was 474,000 bbls. daily. He made the same recommendation last month but it was ignored in the commission's July order.

Potential production tests of 50 key wells made from July 5 to 20 revealed a decline of 10 per cent as to wells, he said. He estimated the potential decline of the entire field at between 20 and 25 per cent.

Griffin estimated an allowable of between 4½ and 5 per cent of the hourly potential would bring the field's legal daily output within the 400,000-bbl. maximum. The present allowable permits production of 4½ per cent of the hourly potential.

Reduction of the East Texas Field allowable by the amount recommended by Griffin would cut the State's daily flow to within the maximum of 1,001,300 bbls. recommended by Secretary Ickes.

Operators in the Yates and McCamey area asked an increase. R. C. Quillian of the Mid-Kansas Oil & Gas Co. testified his company had contracts outstanding for 22,500 bbls. daily but was permitted to produce only 19,990 bbls. He said the company had an offer for an additional 10,000 bbls. daily.

McCamey Field operators asked an additional 1,050 bbls. daily.

Representatives of the Humble Oil & Refining Co. testified they were receiving 4,000 bbls. more than they wanted in the Panhandle and requested a reduction. Texas Co. officials were satisfied with the current allowable. Commissioner Ernest O. Thompson said 330,000 bbls. was withdrawn from storage in 30 days in the Panhandle.

An increase of 2,400 bbls. daily in the Tomball Pool, Gulf Coast district, was asked.

Griffin recommended the allowable of 7,521 bbls. daily for the new Hull Pool be reduced 42 per cent, in proportion to a decrease in the potential.

He also recommended reductions in the North and South Government Wells Pools because of pressure declines. Pressure was dropping 80 pounds for each 1,000,000 bbls. produced, "the largest in the State." He suggested the maximum allowable be cut from 60 bbls. a well to 35 bbls., which would place the daily output at 11,788 bbls. instead of 18,622 bbls.

The Texas Co., owner of 20 of the 22 wells in the Manvel Pool, Brazoria County, asked an increase from 2,000 to 5,000 bbls. daily. William Vietti said the 2,000-bbl. limit was killing wells.

An increase from 700 to 1,000 bbls. daily was asked for Clay Creek Pool, Washington County.

LOADING WHARF COMPLETED

The Naph-Sol Refining Co. recently completed a wharf for loading and unloading oil or gasoline tankers at the head of the Muskegon, Mich., harbor. This is the third such structure of its kind in the western Michigan port. A double 6-inch line about 9,000 feet long was laid from the Naph-Sol plant to the wharf at a cost of about $15,000. One line will be used for heavy oils such as crude, fuel or gas oils, and the other for light oils, including naphthas, kerosene, gasoline, and distillates. The Standard Oil Co. (Indiana) and the Old Dutch Refining Co. have similar docks in the same harbor.

Administrator Announces Revised Regulations

(Continued from Page 24)

York, 1,100 to 10,600; Ohio, 100 to 12,800; Oklahoma, 9,400 to 480.100; Pennsylvania, 3,300 to 40,700, and West Virginia, 700 to 11,600. Montana's allowable was increased from 8,000 to 8,800 Wyoming, 2,800 to 35,000, and New Mexico, 100 to 46,700. Colorado, Indiana and Michigan remained the same at 3,000, 2,300 and 33,200, respectively. The order follows:

The estimate of the required daily production of crude oil to balance consumer demand for petroleum products during the month of August, 1934, has been found by the Department of the Interior to be 2,449,300 bbls., and the Department of the Interior, after a careful, scientific and impartial investigation, collection and evaluation of all available pertinent data, has found as a fact that the daily net reasonable market demand for crude petroleum from the several producing states during the month of August, 1934, will be as follows:

State	Daily av. (bbls.)
Arkansas	30,400
California	490,200
Colorado	3,000
Illinois	12,500
Indiana	2,300
Kansas	131,200
Kentucky	11,700
Louisiana	87,200
Michigan	33,200
Montana	8,800
New Mexico	46,700
New York	10,600
Ohio	12,800
Oklahoma	480,100
Pennsylvania	40,700
Texas	1,001,300
West Virginia	11,600
Wyoming	35,000
Total	2,449,300

The foregoing amounts are hereby recommended to the above enumerated states and allocated as the operating schedules for said states during said period, effective as of 7 a. m., (Standard time at place of production) August 1, 1934.

East Texas Buying

Notification that East Texas refiners, whose surplus gasoline is being purchased in a co-operative program of the oil industry and the oil administration, are not now handling any illegal crude oil, was received by Secretary Harold L. Ickes, oil administrator. E. B. Swanson, member of the petroleum administrative board and chief of its production division, telegraphed Administrator Ickes from Tyler, Tex., that the sellers of the gasoline were adhering to their agreements not to process any hot oil. The contracts under which leading companies buy the surplus gasoline require that no hot oil be refined in the future.

Mr. Swanson also notified Administrator Ickes that buying orders to date totaled approximately 315,000 bbls. of gasoline. Formal contracts for all of this amount have not yet been received by the oil administration. The contracts are being mailed to Washington from East Texas daily as they are executed. Administrator Ickes must approve them before they are effective. He announced approval of contracts as follows:

Seller and Buyer	(bbls.)
Gilmer Ref. Co. to Gulf Ref. Co.	2,400
Goodson Ref. Co. to Gulf Ref. Co.	2,800
Chief Ref. Co. to Gulf Ref. Co.	7,000
Ideal Top. & Ref. Co. to Texas Co.	1,000
Constantin & Co. to Stand.O.Co., Ind.	2,000
Taylor Ref. Co. to Humble O.&R. Co.	1,000
Alamo Ref. Co. to Humble O.&R. Co.	1,000
Goodson Ref. Co. to Gulf Ref. Co.	3,000

The price paid was based on market quotations at the time of purchase and varies in each contract.

LAYING LLOYDMINSTER LINES

LLOYDMINSTER, Saskatchewan, July 21.—Pipe is being moved in for the transmission line and distributing system to be constructed by Western Supplies, Ltd., of Edmonton for the Lloydminster Gas Co. There will be 5 miles of main lines and 3 miles of feeder lines. No. 1 station at the well will reduce pressure from 565 to 50 pounds and No. 2 station will further reduce this to 4 ounces. The system will be completed about September 1.

Well Pumped in Van Pool by the Pneumatic Lift

(Continued from Page 25)

tank in the derrick is 22 feet long and made from 12-inch pipe.

Controlling Mechanism

The gas for fuel for the engine on the compressor is handled through a McAlear regulator and secured from a high pressure line that passes through the lease. When the pressure in the high pressure air line is too high the fuel supply to the engine is reduced and when too low it is increased by the operation of the McAlear regulator.

Ordinarily an installation can be put in and the combined speed and pressure governor on the gas engine depended upon to take care of variations in pressure requirements of the high pressure side of the system. A pilot line from the high pressure side to the speed and pressure regulator on the engine speeds up or slows down the engine as required to maintain the pressure in the high pressure side.

As an added precaution against building up too high a pressure in the high pressure side of the system, an additional regulator was put on the fuel gas line at the Van installation. This additional regulator is the McAlear regulator. Its pilot line is also connected to the high pressure side of the closed system. It is set, however, for a slightly higher pressure than the combined speed and pressure regulator on the gas engine. Just in case anything should go wrong with the regulation on the engine, the McAlear regulator would act as an additional safeguard to hold the engine speed down and not let the pressures run too high.

Between the 3-inch high pressure line and the low pressure volume chamber, a Fisher Wizard pilot controlled regulator has been placed to maintain a pressure in the high pressure line of about 210 pounds per square inch. If the pressure exceeds 210 pounds, the air is automatically released into the low pressure line. A second Fisher Wizard pilot controlled regulator is placed on the low pressure line and set to release to atmosphere if the low pressure line exceeds 75 pounds pressure. These two regulators control pressures into and out of the compression cylinder on the compressor. Drips are provided at convenient points in the air system to remove accumulated moisture.

The engine cylinder on the power end is provided with water cooled jackets and the failure of the water-cooling system is guarded against by the insertion of a device in the cooling line that will cut out the engine magneto when the water supply fails and this will shut down the engine before damage is done.

The Cooper-Bessemer direct-driven compressor is provided with a Pickering governor on the engine end for speed regulation. This is standard equipment. The engine is therefore automatically protected against variation in fuel supply, from failure of the water-cooling system and has the speed regulated by governor.

This engine is rated at 30 horsepower at 180 r.p.m. and 50 horsepower at 300 r.p.m. with a capacity at the higher rating of compressing 540,000 feet of free air per day from 75 pounds intake pressure to 250 pounds maximum discharge pressure. This air capacity refers to air before it has been passed through the heater and expanded about 50 per cent by volume.

This air is recycled through this closed system between compressor and pneumatic and any additional air that may be needed from time to time for makeup purposes to replace losses is permitted to enter through manually operated valves on the bottom of the suction port.

Air System

The temperature of the air in the system is dependent upon the engine speed and load and also upon the climatic and operating conditions at the well. With the engine running at 148 r.p.m. the temperature of the compressed air at the exhaust heater outlet is approximately 320° F. and when delivered to the intake valve on the pneumatic cylinder in the derrick the temperature has dropped to about 280° F.

A unique feature on the Sullivan pneumatic pumping cylinder that is very essential in this type of device is the Cook's floating metallic packed stuffing box on the piston rod that enters the cylinder. If this type of gland or stuffing box were not provided the heated air that enters the cylinder would tend to remove all lubricant from the piston rod and cause trouble. The stuffing box can be seen immediately below the pneumatic head as it hangs in the derrick.

In pumping at the rate of about 1,000 bbls. of fluid per day the piston makes an upstroke of about 74 inches. The compressed and heated air enters the intake valve on the head and the first 48 inches of upward traved of the piston is accomplished by the energy furnished directly by the pressure within the air as it enters the cylinder. After the first 48 inches of travel is completed the balance of the upstroke is completed by the expansion of the air that has entered the cylinder and by the momentum of the rods.

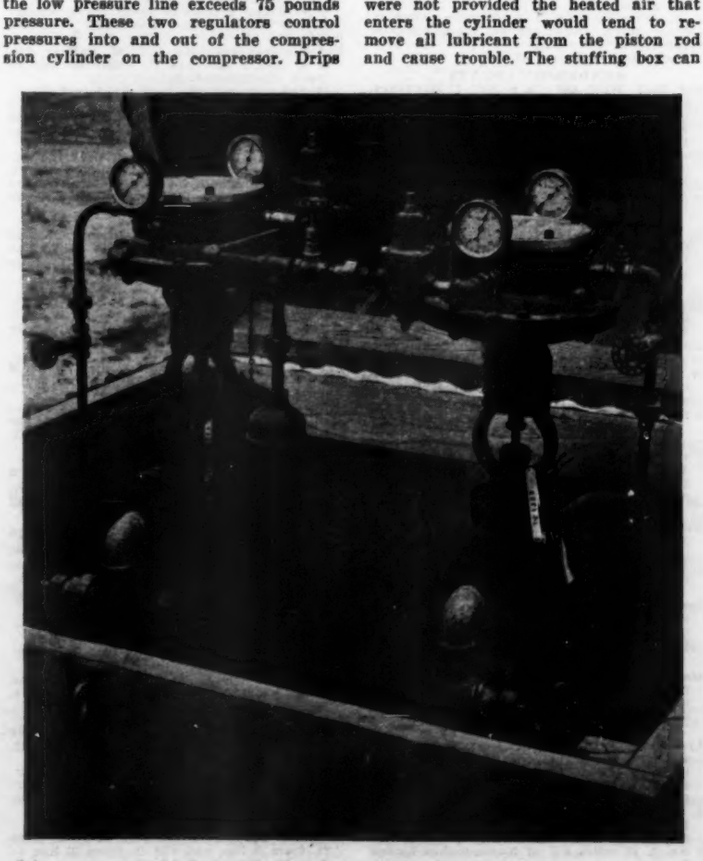
The typical card taken from one of the Sullivan pneumatic cylinder shows this feature quite clearly. It is possible to secure very good records of performance of this cylinder by attaching a recording pressure gauge to the lower end of the pneumatic cylinder.

At the end of the upstroke the piston reverses its direction of travel and as it descends the air that is in the lower part of the cylinder is compressed by the descending weight of rods and fluid above the traveling rods. This cushioning effect is desirable and reduces strains upon rods. With a 12-inch compression on the downstroke the air reaches a pressure of 210 pounds before the intake valve opens. The indicator card shows a slight hook at the upper right hand side that is caused by this slight lag of the exhaust air over inlet air. A small portion of the compressed air from the bottom of the cylinder actually enters into the intake pipe line when the inlet valve is opened to admit a new charge of compressed air.

The Sullivan pneumatic cylinder pumping head was completely described in an article in the October 13, 1932, issue of The Oil and Gas Journal with typical indicator cards.

The interesting feature of this particular installation at Pure Oil Co.'s 506 No. 5 Tunnel well is the compactness of the units, the high efficiency of the compressor and engine, and the large volume of salt water handled daily from this well. One thousand barrels of this gravity salt water will weigh about 392,180 pounds.

This is the first installation of its kind and the utilization of the heat in the exhaust gases from the engine adds materially to the efficiency of the entire unit. Without this utilization of exhaust gas heat it is estimated that another 30 horsepower compressor would be required to furnish the air for the pneumatic cylinder.



Regulators on air line at Van pool installation

Exception of Code Rule Made in East by Ickes

Harold L. Ickes recently approved a revision made by the Marketing Committee "D" relating to Article 5, Rule 21, of the petroleum code. This revision applies to Region No. 1. Referring to the rule under

Petroleum Code Revision

Harold L. Ickes recently approved a revision made by the Marketing Committee "D" relating to Article 5, Rule 21, of the petroleum code. This revision applies to Region No. 1. Exceptions to the rule are made to deliveries of kerosene, range oil and/or fuel oils, to tank truck dealers in the region provided the following conditions are complied with:

1. The tank truck dealer and supplier make a written contract for a period not to exceed one year, which contract must expire not later than May 31, following the effective date of the contract, and which contract shall contain provisions as follows:

(a) No supplier can sell to a tank truck dealer while said tank truck dealer has a contract for the same product with another supplier.

(b) That the supplier shall deliver kerosene, range oil and/or fuel oils at supplier's plant, to the truck of the tank truck dealer, at the supplier's current

posted prices covering such products, for such tank truck dealers.

(c) That the tank truck dealer shall resell at the supplier's posted prices effective at the date of resale, for the particular products, to the same class of buyers, in the same area.

2. The truck of the tank truck dealer must be equipped with a tank of not less than 275 gallons capacity, permanently attached to the chassis of the truck.

3. Tank truck dealers shall display conspicuously on their delivery vehicles the name of the supplier.

4. Tank truck dealers shall post upon their delivery vehicles in a conspicuous place, in letters and numerals not less than 3 inches in height, the prices at which the kerosene, range oil and/or fuel oils are resold by him, which prices shall be the same as the supplier posts at the date of resale, for the sale of the same products, to the same class of buyers, in the same area.

5. Any and all rules of the code which are not in conflict herewith shall be applicable to all tank truck dealers.

No deliveries of kerosene, range oil and/or fuel oils shall be made in the States of Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Vermont and Rhode Island, to the trucks of agents operating on a commission basis, except to such agents as operate complete bulk plants and distributing facilities in the name of, or for a refiner, distributor, jobber, or wholesaler, and except to such agents working as regular employes, on a salary and/or commission basis, operating trucks furnished by the employer.

ROCKY MOUNTAIN FIELDS

Average daily production for the week ending July 21 was as follows:

WYOMING

Salt Creek	17,620
Big Muddy	1,830
Badger Basin	40
Byron	70
Black Mountain	600
Dallas Dev. y	600
Dutton Creek	70
Elk Basin	570
Ferris	40
Frannie	2,350
Garland	650
Grass Creek	1,290
Greybull	10
Hamilton Dome	1,040
Hudson	300
LaBarge	1,640
Lance Creek	340
Lost Soldier	1,340
Muie Creek	Shut in
Midway	70
Notches	Shut in
Oregon Basin	2,500
Osage	950
Pilot Butte	10
Rex Lake	Shut in
Rock River	1,540
South Casper	600
Poison Spider	330
Teapot	30
Total Wyoming	36,630

MONTANA

Buckley-Border	360
Cat Creek	600
Cut Bank	2,600
Dry Creek	Shut in
Kevin-Sunburst	4,350
Lake Basin	40
Pondera	390
Total Montana	8,340

COLORADO

Florence	210
Fort Collins and Wellington	440
Iles Dome	1,480
Moffat	450
Orchard	90
Rangely	90
Tow Creek	220
Total Colorado	2,980

NEW MEXICO

Artesia	640
Cooper area	80
Empire area	0
Eunice area	2,100
Getty Pool	0
Hobbs	36,700
Hogback	310
Hospah	Shut in
Jal	2,960
Lea area	2,000
Jackson	2,450
Maljamar	150
Rattlesnake	690
Table Mesa	90
Total New Mexico	48,070
Total Rocky Mountain region	96,520
Total previous week	96,570
Difference	20

East Central Texas Wildcats

(Continued from Page 54)

H. L. Hunt Production Co.'s No. 1 Powell Lumber Co., 467 ft. from S and W lines of 52-ac. tract, 1 mile E and one-quarter mile N of discovery well, D. W. McNab Sur.
Location.

Jackson Oil & Gas Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville on W side of railroad, J. Pineda Sur.
Moving in.

Milhoan Drilling Co.'s No. 1 O. R. Perkins, 1,208 ft. from W line of Perkins 164-ac. tract and 655 ft. from N line of lease, J. M. Martinez Sur.
Rig up.

Smith and McCras' No. 1 Tipps, 350 ft. E of W line and 700 ft. N of S line of lease and survey, J. B. Heath Sur.
Spudded.

Southern Gulf Oil Co.'s No. 1 Joe Bailey, center 164-ac. tract, 4 miles NE of Ponta, L. R. Rhodes Sur., Abstract No. 724.
S.D. 2,740 ft.

T. J. Wood et al's No. 2 New Birmingham Dev. Co., 660 ft. W and 330 ft. S of No. 1, Levi Jordan Sur.
Set surface csg. 220 ft.

T. J. Wood et al's No. 3 New Birmingham Dev. Co., 660 ft. N and 330 ft. E of No. 1, Levi Jordan Sur.
Location.

Zilkey and McCulloch's No. 1 Bradford, 2,500 ft. from most southerly S line and 771 ft. from E line of survey, 4 miles E of Rusk, J. Armendaris Sur.
Drlg. 3,779 ft.

FANNIN COUNTY

L. Kean et al's No. 1 L. M. Boyd, 900 ft. from E line and 200 ft. from N line of survey, W. Hunt Sur.
Prepare to test; T.D. 2,364 ft.

FRANKLIN COUNTY

Humble Oil & Ref. Co.'s No. 1 Merchants & Traders Bank, 1,000 ft. from S line and 1,500 ft. from E line of Fannie Davis tract, 5 miles SE of Talco, J. Askey Sur.
S.D. 520 ft.

FREESTONE COUNTY

American Liberty Oil Co.'s No. 1 Trinity Farm Security Co., center of N and S lines and 466 ft. from E line of survey, J. B. Bonham Sur.
Drlg. 1,301 ft.

Burris' No. 1 R. J. Johnson, NE cor. of a 95.5-ac. tract, W. M. C. Jones Sur.
Location.

Clyde Creighton's No. 1 Holly Bros., 854 ft. from W and center N and S lines of lease, A.B.&M. Sur.
Drlg. 5,711 ft.

Gholson et al's No. 1 E. M. and C. H. Watson, 1,460 varas from N line and 1,150 varas from W line of survey, 6 miles NE of Fairfield, R. D. Price Sur.
Location.

Trinity Farm Co.'s No. 1 N. R. Stewart, 1,866 ft. SW from NE line and 933 ft. SE from NW line of 1,920-ac. tract, R. M. Williamson Sur.
Set surface csg. 540 ft.

J. E. Wilburn's No. 1 S. McShan, 4,000 ft. from MWL and 5,000 ft. from NEL of survey, G. Diaz Sur.
Waiting on cmt. to set.

HENDERSON COUNTY

Big Bad Wolf Oil Co.'s No. 1 McCreary, 1,800 ft. from W line and 330 ft. from S line of survey, 6 miles S of Malakoff, W. H. Irvin Sur.
Derrick.

Crosby and Pulp's No. 1 M. T. Dobbs, NW cor. of east Dobbs 100-ac. tract, 4 miles E of Malakoff and S of railroad, George Aldrick Sur.
Derrick.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 70-ac. tract, 1 mile SE of Miller Grove, A. Caro Sur.
Drlg. 310 ft.

HUNT COUNTY

L. G. Priest's No. 1 Amelia Barnett, 500 ft. from W line, 200 ft. from S line of J. C. Hamer Sur.
Location.

KAUFMAN COUNTY

W. J. Lewis et al's No. 1 D. Clark, 430 ft. from S line and 600 ft. from E line of Sur., 6½ miles NW of Elmo.
S.D. 1,425 ft.

LAMAR COUNTY

Cole et al's (formerly Optometrist Oil Club) No. 1 J. M. McFaddin, 450 ft. from S and W lines of E 25-ac. tract, 10 miles NW of Paris, Joseph Dick Sur.
S.D. 2,506 ft.

LEON COUNTY

Kellough and Tucker's No. 1 G. B. Young, 330 ft. from S line and 330 ft. from W line of 100-ac. tract, 4 miles SE of Long Lake, J. M. Boone Sur.
Rig up.

LIMESTONE COUNTY

Schultz' No. 1 Roy Ward, NE cor. of 73.3-ac. tract, 5 miles W of Mexia Field, Harrison York Sur.
Rebuilding rig.

MORRIS COUNTY

McGinnis et al's No. 1 Staggers, 800 ft. from S line of survey and 150 ft. from W line of lease, J. B. Nelson Sur.
S.D. 3,550 ft.

NACOGDOCHES COUNTY

Livingston Oil Co.'s No. 1 C. B. Watkins 150 ft. from N line and 330 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y. Bailey Sur.
Drlg. water well.

J. W. Rich and others' No. 1-A R. W. Hazlewood, 5,460 ft. from S line and 2,800 ft. from W line of survey, 50 ft. N of No. 1, 15 miles SW of Nacogdoches Ewing Sur.
S.D. for surface csg.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE L of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur.
Drlg. 820 ft.

W. J. Keeling et al's No. 1 J. F. Rushing, 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur.
Derrick.

McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-ac. tract, 1 mile W of Dawson, William Moss Sur.
S.D. 625 ft.

Wheelock and Collins' No. 1 I. N. Cerf, 375 ft. from N line of lease and 1,050 ft. from W line of lease, James Smith Sur. No. 726.
Coring 4,576 ft.

RAINES COUNTY

J. W. Halsell et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B.B.&C. Sur.
Drlg. 4,730 ft.

RED RIVER COUNTY

Cornell and Spear's No. 1 E. H. Thompson, 664 ft. from S and 1,062 ft. from W of NE cor. of 384-ac. tract, E. Smith Sur.
Location.

RUSK COUNTY

George Hudson et al's No. 3 Jeff Phillips, 150 ft. from N line of survey and 700 ft. from W line of 100-ac. tract, 4 miles SE of Minden, N. Villaris Sur.
Drlg. plug.

UPSHUR COUNTY

Ben G. Barnett et al's No. 1 W. S. Jones, 200 ft. out of SW cor. of 100-ac. tract, 1¼ miles NW of Jamestown, James N. Dunn Sur.
Bailed S.W. 3,700 ft.

Virgil Hodges et al's No. 1 J. M. Floyd, 330 ft. from NE cor. of 126-ac. tract, 4 miles N of Gladewater, Railroad Sur.
S.D. 2,950 ft.

Lanier and Moore's No. 1 Vaughan, 230 ft. from S line and 330 ft. from W line of 100-ac. tract, 2 miles NW of Big Sandy, P. W. Standifer Sur.
S.D. 1,042 ft.

Joe Papadika's No. 2 Tourney, 100 ft. due W of No. 1.
Location.

VAN ZANDT COUNTY

W. E. Brown's No. 1 Bank of Edgewood, 560 varas from SW cor. of H. M. Lead Sur., M. B. Lout Sur.
Location.

Germany et al's No. 1 C. S. Coker, 150 ft. out of SW cor. 55-ac. tract, William Daniel Sur.
S.D. 1,208 ft.

Gillum and Allen et al's No. 1 A. T. Bass, 150 ft. from W line and 150 ft. from N line of 10-ac. tract, William Hart Sur.
Fishing 4,267 ft.

Isaac et al's No. 1 C. F. Darrell, 330 ft. from S and W lines of 53-ac. tract, C. E. River Sur.
T.D. 1,320 ft.

Markin & Evens' No. 1 L. M. Palmer, 850 ft. E of W line and 150 ft. N of S line of 69.8-ac. tract, one-tenth mile E of Pruitt, Nacogdoches County School Land Sur.
Drlg. 1,200 ft.

Miller et al's No. 1 J. M. Palmer, 150 ft. from S and E lines of 69-ac. tract, Nacogdoches County School Land Sur.
T.D. 225 ft.

Peden and Olson's No. 1 J. M. Palmer, 200 S of No. 2 and 140 ft. from W line of tract, J. Goodman Sur.
Bailed dry; got 70 ft. of fluid in hole.

Pure Oil Co.'s No. 5 A. G. Maxfield, 1,576 feet N of S line and 250 ft. W of E line of the Maxfield 107.8-ac. tract, Nacogdoches County School Land Sur.
Making drill stem test; T.D. 2,994 ft.

Pure Oil Co.'s No. 2 A. D. Preston, 200 ft. S of N line and 200 ft. NE of SW line of A. D. Preston 9-ac. tract, Mund Gross Sur.
Drlg. 1,841 ft.

Pure Oil Co.'s No. 3 Frank Blackstock, 720 ft. S of N line and 665 ft. E of W line of Frank Blackstock 40-ac. tract, John Walling Sur.
Location.

Pure Oil Co.'s No. 10 W. T. Jarmon, 650 ft. S of N line of lease and 1,035 ft. W of E line of W. T. Jarmon 132.8-ac. tract in Nacogdoches County School Land Sur.
Location.

Pure Oil Co.'s No. 3 W. F. Swain, 700 ft. S of N line, 200 ft. E of W line, John Walling Sur.
Location.

Shell Pet. Corp.'s No. 4 B. M. Fowler, 224 ft. N of most southerly S line and 179 ft. W of E line, John Walling Sur.
Waiting on cmt. to set; T.D. 2,778 ft.

Wheeler et al's No. 1 Cade, 150 ft. from S line and 150 ft. from E line of 20-ac. tract, Nacogdoches County School Land Sur.
S.D. 1,265 ft.

WOOD COUNTY

Alex Snyder et al's No. 1 T. Holmes, 200 ft. out of NE cor. of 122-ac. tract, 1½ miles SE of Hawkins, A. N. McKnight Sur. 399.
S.D. 3,615 ft.

West Texas Wildcats

(Continued from Page 53)

Landreth Prod. Co.'s No. 1-C T.P. Land Trust, 440 ft. N and 440 ft. W of Sec. 11, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 2,900 ft.

Landreth Prod. Co.'s No. 2 O. B. Holt, 660 ft. from S and E lines of Sec. 15, Blk. 43, Twp. 1n, T.&P. Sur.
Rig up.

Landreth Prod. Co.'s No. 1 Clarence Scharbauer, 660 ft. from S and E lines of Sec. 20, Blk. 44, Twp. 1n, T.&P. Sur.
S.D. 3,765 ft.

Landreth Prod. Co.'s No. 1 O. B. Holt, 1,980 ft. from S line and 660 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.
1,100 ft. of oil in hole; T.D. 4,300 ft.

Moran Drlg. Co.'s No. 1 Smith, 330 ft. from N line, 330 ft. from W line of Sec. 12, Blk. 43, Twp. 1s, T.&P. Sur.
Cleaning out; swabbed 100 bbls. July 2.

Skelly Oil Co.'s No. 1 Connell, 1,650 ft. from N line and 440 ft. from E line of Sec. 11, Blk. 16, P.S.L. Sur.
Drlg. 3,730 ft.

Skelly Oil Co.'s No. 5-A University, 660 ft. from N and 1,980 ft. from E, Sec. 1, Blk. 35, University Sur.
Set casing; T.D. 3,305 ft.

Stanolind Oil & Gas Co.'s No. 7 J. M. Cowden, 440 ft. from S line and 2,312 ft. from W line, Sec. 34, Blk. 43, Twp. 1n, T.&P. Sur.
Location.

Stanolind Oil & Gas Co.'s No. 8 J. M. Cowden, 440 ft. from S line and 440 ft. from W line, Sec. 34, Blk. 43, Twp. 1n.
Location.

Stanolind Oil & Gas Co.'s No. 9 J. M. Cowden, 440 ft. from S line and 2,200 ft. from E line, Sec. 34, Blk. 43, Twp. 1n, T.&P. Sur.
Location.

Stanolind Oil & Gas Co.'s No. 4 E. F. Cowden, 1,900 ft. from S line and 660 ft. from W line, Sec. 36, Blk. 43, Twp. 2s, T.&P. Sur.
Rig up.

Sun Oil Co.'s No. 1 Wight, 2,200 ft. from S line, 440 ft. from W line, Sec. 2, Blk. 43, Twp. 1s, T.&P. Sur.
Derrick.

Texas Co.'s No. 10 W. E. Connell, 2,310 ft. from E line and 330 ft. from the S line of Sec. 1, Blk. B-16, P.S.L. Sur.
Drlg. 2,010 ft.

Fred Turner's No. 2-A Addis, 2,310 ft. from N and 440 ft. from E of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
Cellar.

York-Harper et al's No. 1 Bates, 660 ft. from N and 660 ft. from E, Sec. 38, Blk. 44, Twp. 2s, T.&P. Sur.
Drlg. 4,474 ft.

EDWARDS COUNTY

O. Houseman's No. 1 Turney, 1,650 ft. from N line and 330 ft. from W line of Sec. 176, C.C.S.D.&R.G.N.G. Sur.
T.D. 410 ft.; no report.

H. H. Sides' No. 1 Turney, 1,650 ft. from N line and 330 ft. from W line of Sec. 176, C.C.S.D.&R.G.N.G. Sur.
T.D. 500 ft.; no report.

FISHER COUNTY

E. T. Campbell et al's No. 1 W. R. Bishop, 570 ft. from S and 150 ft. from E of NW cor. of Sec. 18, Blk. 21, T.&P. Sur.
Rig up.

Condor Pet. Co.'s No 1 Herring, 450 ft. from S and 330 ft. from W line of Sec. 192, Blk. 1, B.B.B.&C. Sur.
T.D. 3,110 ft.; plugged back to 3,106 ft.; will treat with acid.

Condor Pet. Co.'s No. 2 Wilson, 640 ft. from N and 2,310 ft. from W line of Sec. 6, Blk. R. W. E. Richardson Sur.
Drlg. 1,600 ft.

Stanolind Oil & Gas Co.'s No. 5 Steele, 1,170 ft. from S and 990 ft. from W line of Sec. 210, Blk. 1, B.B.B.&C. Sur.
Set casing; T.D. 3,192 ft.

Texas Co.'s No. 2-B Teagarden, 990 ft. from S and 330 ft. E of NW cor. of S half of Sec. 9, Blk. 8, W. E. Richardson Sur.
Drlg. 200 ft.

Texas Co.'s No. 1 First National Bank of Rotan, 330 ft. N and E of the NW cor. of Sec. 210, B.B.B.&C. Sur.
Fishing 1,535 ft.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 3 Hart Phillips, 1,050 ft. from N and 660 ft. from W, Sec. 24, Blk. 33, Twp. 2s, T.&P. Sur.
Hole abnd.; skidded rig 25 ft. N.

Steve Currie et al's No. 1 Underwood, 660 ft. from N line and 660 ft. from E line of Sec. 24, Blk. 3, Twp. 4s, T.&P. Sur.
Set csg. 995 ft.

John L. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
Drlg. 3,297 ft.

John L. Moore's No. 1 Hubbard, 660 ft. from E line, 660 ft. from S line, Sec. 16, Blk. 34, Twp. 5s, T.&P. Sur.
Spudded.

Luce & Pickens' No. 1 Lee, 330 ft. from N and 330 ft. from W, Sec. 20, Blk. 33, Twp. 2s, T.&P. Sur.
Drlg. 1,400 ft.

Simms Oil Co.'s No. 2 W. P. Edwards, 330 ft. from S and 990 ft. from E of Sec. 18, Blk. 33, Twp. 2s, T.&P. Sur.
Drlg. 2,620 ft.

Tribal Oil Co.'s No. 5 M. M. Edwards, 330 ft. from S line and 990 ft. from the W line of Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur.
S.D. 2,452 ft.

HOWARD COUNTY

Continental Oil Co.'s No. 10 Settles, 330 ft. from N line, 1,650 ft. from W line, Sec. 133, Blk. 29, W.&N.W. Sur.
Cellar.

Eastland Oil Co.'s No. 1 Chalk, 2,310 ft. from S and 1,980 ft. from W, Sec. 125, Blk. 29, W.&N.W. Sur.
Drlg. 1,215 ft.

Fuglarr & Patterson's No. 1 Hyman, 330 ft. from S line and 330 ft. from W line of Sec. 89, Blk. 29, W.&N.W. Sur.
S.D. 700 ft.

Humble Oil & Ref. Co.'s No. 4 Settles, 330 ft. from S and 2,310 ft. from W, Sec. 132, Blk. 29, W.&N.W. Sur.
Drlg. 2,150 ft.

California Oil Co.'s No. 1 A. M. Bell, 465 ft. from W line and 1,915 ft. from E line of Sec. 12, Blk. 30, Twp. 1s, T.&P. Sur.
Drlg. 2,520 ft.

California Oil Co.'s No. 1 Dodge, 1,915 ft. from E line and 465 ft. from S line of Sec. 1, Blk. 30, T.&P. Sur.
Drlg. 2,020 ft.

Dorn et al's No. 1-B Davis, 2,310 ft. from N line and 2,310 ft. from W line of Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur.
Drlg. 1,402 ft.

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, Blk. 30, Twp. 1s, T.&P. Sur.
Derrick.
Iron Mountain Oil Co.'s No. 1 Read, 330 ft. from E line, 330 ft. from S line, Sec. 46, Blk. 30, Twp. 1n, T.&P. Sur.
Cellar.
Plymouth Oil Co.'s No. 11 Kloh, 1,320 ft. from S line and 660 ft. from W line of Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur.
Drlg. 2,348 ft.
Permian Pacific Pet. Co.'s No. 1 Capps, 330 ft. from SW cor. of Sec. 17, Blk. 29, Twp. 1n, T.&P. Sur.
Location.
Phillips Pet. Co.'s No. 1 Davis, 990 ft. from E and 2,310 ft. from S line, Blk. 30, Twp. 1s, T.&P. Sur.
Location.
Joe Rusk et al's No. 3 G. M. Dodge, 330 ft. from the N line, 330 ft. from the E line, Sec. 9, Blk. 30, Twp. 1s, T.&P. Sur.
Moving in machine.
Sinclair Prairie Oil Co.'s No. 12 Dodge, 330 ft. from S line and 2,360 ft. from W line, Sec. 11, Blk. 30, Twp. 1s. T.&P. Sur.
T.D. 2,810 ft.; cleaning out.
Southern Oil Co.'s No. 1 Frazier, 660 ft. from S line and 660 ft. from W line of Sec. 4, Blk. 33, Twp. 1s, T.&P. Sur.
Fishing 3,420 ft.

IRION COUNTY

S. E. Colgin's No. 1 Tankersley, 550 ft. from E of river and 150 ft. from S line of Sec. 723, H. J. Voelker Sur.
S.D. 1,358 ft.
Melrose Oil Co.'s No. 1 J. D. Sugg, 1,700 ft. from the E line and 308 ft. from the S line of Sec. 25, Blk. 2, H.&T.C. Sur.
Spudded and S.D.
Williams-Short's No. 1 Gentry, 2,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur.
S.D. 1,404 ft.

JONES COUNTY

Clifton & Brazelton et al's No. 1 Cassey, 200 ft. from N and W lines of SE cor. of Sec. 15, Blk. 15, T.&P. Sur.
S.D. 800 ft.
Elmer Close et al's No. 1 A. B. Faulks, 330 ft. from N line and 330 ft. from W line of Subdiv. No. 27, Henry Millard Sur.
S.D. 1,970 ft.
Guthrie & Lancaster's No. 1-B Campbell, 330 ft. from N and 2,276 ft. from E line of Sec. 15, Blk. 19, T.&P. Sur.
S.D. 1,020 ft.
Southern Oil Corp.'s No. 2 Williams, 330 ft. from S and W line of Sec. 17, Blk. 19, T.&P. Sur.
Drlg. 2,610 ft.

LOVING COUNTY

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 82, Blk. 33, H.&T.C. Sur.
Location.
R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur.
Location.
R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur.
Location.
Eppenauer Drlg. Co.'s No. 2 Hammill & Ellis, 410 ft. from NW and 796 ft. from NE lines of Sec. 2, Blk. 1, W.&N.W. Sur.
Cellar.
D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W. Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
Rig up.
H. W. Martin's No. 4 Wheat, Ramsey, 990 ft. from SE and SW lines of Sec. 83, Blk. 1, W.&N.W. Sur.
Drlg. 2,310 ft.
J. F. Slack's No. 1 Covey, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 3, Blk. 2, W.&N.W. Sur.
S.D. 2,200 ft.

PECOS COUNTY

California Oil Co.'s No. 7 Smith, Lease No. 1, 375 ft. from N and 1,094 ft. from E, Sec. 37, Blk. 194, G.C.&S.F. Sur.
Prepare to test 1,424 ft.
Cardinal Oil Co.'s No. 17-E Tippett, 150 ft. from E line of W half and 730 ft. from N of No. 5-E, Sec. 40, Blk. 194, G.C.&S.F. Sur.
Waiting on orders; T.D. 481 ft.
Illinois Oil Co.'s No. 2 University, 330 ft. from E line and 960 ft. from S line, Sec. 31, Blk. 24, University Land Sur.
Drlg. 510 ft.
C. S. Messenger's No. 2 Rand Jones, 1,935 ft. from S line and 1,013 ft. from W line of Sec. 5, Blk. 9, H.&G.N. Sur.
Drlg. 520 ft.
Mid-Kansas Oil & Gas Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,390 ft. from W line, Sec. 33, Blk. 194, G.C.&S.F. Sur.
Location.
Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 250 ft. W of S half of Turner tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur.
Road.
Mid-Kansas Oil & Gas Co.'s No. 25 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Tract No. 1, Sec. 33.
S.D. 750 ft.
Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1.
Cellar.
Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 250 ft. from N line and 250 ft. from W line of Turner Sur. No. 1.
S.D. 590 ft.
Mid-Kansas Oil & Gas Co.'s No. 12-H Yates, 408 ft. S of N line of Sec. 32 and 334 ft. W of SE cor. of S half of Tract No. 1.
Location.
Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. E of SE cor. of S half of Tract No. 1.
Location.
Mid-Kansas Oil & Gas Co.'s No. 27 Smith-Taylor, 194 ft. from N and 865 ft. from E of Sec. 33, Blk. 194, G.C.&S.F. Sur.
Drlg. 810 ft.

Mid-Kansas Oil & Gas Co.'s No. 35-B Yates, 1,619 ft. from N and 159 ft. from W of Sec. 61, Blk. 1, I.&G.N. Sur.
Drlg. 1,210 ft.
Mid-Kansas Oil & Gas Co.'s No. 38-A Yates, 250 ft. E and 205 ft. S from the NE cor. of Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur.
Location.
Mid-Kansas Oil & Gas Co.'s No. 39-A Yates, 150 ft. N and 250 ft. W of the NW cor. of Turner tract No. 4, in Sec. 34½, I. G. Yates Sur.
Cellar.
Mid-Kansas Oil & Gas Co.'s No. 40-A Yates, 344 ft. from E line and 395 ft. from N of SE cor. of E half of Turner Tract No. 1.
S.D. 680 ft.
Tex-Mex Pet. Co.'s No. 1 Netterville, 5,610 ft. from S and 330 ft. from W of Sec. 59, Blk. 8, H.&G.N. Sur.
Drlg. 1,625 ft.
Trans-Texas Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
S.D. 390 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 15-C University, Sec. 12, Blk. 2.
Drlg. 6,453 ft.
E. P. Kirschner and White's No. 1 W. A. White and McIntosh, 720 ft. from E and 800 ft. from N of Sec. 1,223, E.L.R.R. Sur.
S.D. 3,165 ft.
Skelly Oil Co. et al's No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 8, University Land Sur.
Rig up.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,310 ft. from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur.
Spudded and S.D.
Grisham & Hunter Corp.'s No. 1-A fee, 1,320 ft. from N line and 1,470 ft. from E line, Sec. 1, Blk. 50, Twp. 8, T.&P. Sur.
Drlg. 1,010 ft.
Fishing 2,400 ft.
Hugo Freels' No. 1 B. Greenman, 330 ft. from NE line and 231 ft. from SE line of Sec. 21, Blk. 2, H.&G.N. Sur.
Shot 220 qts. from 3,778-3,980 ft.; no results; S.D.; T.D. 3,985 ft.

RUNNELS COUNTY

Agnew & Sons' No. 2 Fowler, 1,165 ft. from S and 150 ft. from W of NE cor. of Blk. 23, N. Travis Sur.
S.D. 2,559 ft.
Agnew and Currie's No. 1 H. E. Wade, 2,640 ft. from N line and 320 ft. from E line of Sec. 24, Domingo Diaz Sur. No. 532.
Prepare to start up; T.D. 33 ft.
Anderson et al's No. 1 W. F. James, 330 ft. from N and W lines of Subdiv. No. 20, Norvell Travis Sur.
Drlg. 1,470 ft.
Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 100.
S.D. 1,430 ft.
W. S. Sawyer et al's No. 1 Giesecke, 1,211 ft. from N and 4,606 ft. from E lines of survey, Blk. 131, James Hughes Sur.
Fishing 2,033 ft.
F. D. Williams' No. 1 J. L. Elkins, 2,225 ft. from E and 1,300 ft. N of SW cor. of Blk. 12, but in Blk. 13, N. Travis Sur. No. 533.
S.D. 1,410 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur. (old well being drilled deeper).
S.D. 5,635 ft.
Humble Oil & Ref. Co.'s No. 1 Ike Honig, 2,640 ft. from N line and 2,650 ft. from E line of Sec. 38, Blk. M, G.H.&S.A. Sur.
Drlg. 210 ft.

SCURRY COUNTY

Paul C. Teas' No. 1 Chapman, 660 ft. from S and 660 ft. from W, Sec. 100, Blk. 9, H.&T.C. Sur.
Drlg. 1,330 ft.

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,157 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur.
S.D. 5,635 ft.

TOM GREEN COUNTY

Southwest Exploration Co.'s No. 1 Bennett, 1,320 ft. from S and 1,320 ft. from W of Section 1,628, Behringer Sur.
Underreaming; T.D. 2,536 ft.

UPTON COUNTY

Broderick & Calvert's No. 1 Homer Trust & Savings Bank, 1,980 ft. from N line, 660 ft. from W line, Sec. 22, Blk. B-42, Twp. 4s, T.&P. Sur.
Running csg. 875 ft.
Gulf Prod. Co.'s No. 102 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
Cmtd. csg.; T.D. 10,631 ft.
Perry & Breeding's No. 1 Lane, 1,650 ft. from S line and 990 ft. from E line of Sec. 36, Blk. 1, M.K.&T. Sur.
Location.
Stanolind Oil & Gas Co.'s No. 33 Burleson, 1,650 ft. from N line, 1,650 ft. from E line, Sec. 2, Nidever Sur.
Location.
Texas Pacific Coal & Oil Co. and Simms Oil Co.'s No. 4-D J. F. Lane, 990 ft. from S line and 1,650 ft. from W line, Sec. 36, Blk. L, M.K.&T. Sur.
Rig.
Theabotal Oil Co.'s No. 2 J. F. Lane, 1,650 ft. from N and 990 ft. from E of Sec. 36, Blk. 1, M.K.&T. Sur.
Drlg. 2,320 ft.
Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur.
S.D. 1,995 ft.

VAL VERDE COUNTY

South-Western Exploration Co.'s No. 1 E. K. Fawcett, 2,310 ft. from S and 2,310 ft. from E, Sec. 14, Blk. L, G.C.&S.F. Sur.
Rig up.

WARD COUNTY

Atlantic Oil & Prod. Co.'s No. 3 Barrow, 2,310 ft. from NE line and 990 ft. from NW line of Sec. 23, Blk. 5, H.&T.C. Sur.
Drlg. 2,400 ft.
Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur.
Drlg. 1,580 ft.
Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, H.&T.C. Sur.
Location.
H. L. Randall et al's No. 1 Lee Monroe, 2,310 ft. from NE and 330 ft. from SE lines of Sec. 77, Blk. 34, H.&T.C. Sur.
Drlg. 1,860 ft.
California Oil Co.'s No. 8 York, 990 ft. from N and 2,310 ft. from SW of Sec. 10, Blk. 34, H.&T.C. Sur.
Drlg. 2,710 ft.
C. C. Duffey et al's No. 1 Llano-Sloan, 1,650 ft. from NW and NE lines of Sec. 24, H.&T.C. Sur.
Lost tools; to skid rig.
Eppenauer Drlg. Co.'s No. 1-B Combs, 438 ft. from SE and 1,826 ft. from SW, Blk. 4, J. W. Hollingsworth Sur.
Rigged up and S.D.
Farrell & Co.'s No. 4 Pure-Bennett, 990 ft. from NE and 1,650 ft. from SE, Sec. 16, Blk. 34, H.&T.C. Sur.
Cellar.
Gulf Prod. Co.'s No. 30 Hutchins, 990 ft. from S line and 330 ft. from W line of Sec. 4, Blk. F, G.M.M.B.&A. Sur.
Drlg. 2,602 ft.; showing oil.
Gulf Production Co.'s No. 32 Hutchins, 990 ft. from N line, 990 ft. from W line, Sec. 4, Blk. F, G.&M.M.B.&A. Sur.
Cellar.
Gulf Prod. Co.'s No. 47 O'Brien, 330 ft. from E and 990 ft. from S, Sec. 17, Blk. F, G.M.M.B.&A. Sur.
Flowed 462 bbls., 24 hrs.
Gulf Prod. Co.'s No. 48 O'Brien, 990 ft. from E line and 990 ft. from S line of Sec. 17, Blk. F, G.M.M.B.&A. Sur.
Drlg. 2,505 ft.
Gulf Prod. Co.'s No. 50 O'Brien, 990 ft. from E line, 330 ft. from S line, Sec. 17, Blk. F, G.M.M.B.&A. Sur.
Location.
Postelite & Caprito's No. 1 Purcell, 330 ft. from NE and 990 ft. from NW, Sec. 17, Blk. 34, H.&T.C. Sur.
Rigged up and S.D.
Rector Oil Co.'s No. 1 Lee Monroe, 660 ft. from NE and 660 ft. from SE of Sec. 62, Blk. 33, H.&T.C. Sur.
S.D. 4,661 ft.
Sid Richardson's No. 1 Lee Monroe, beginning at the NE cor. of J. W. Hollingsworth Sur. No. 4, thence 440 ft. SE, thence NE 430 ft., J. W. Jackson Sur. No. 55.
Drlg. 2,015 ft.
Rogers & Graham's No. 1 J. C. Wells, 330 ft. from SE and 603 ft. from SW, Sec. 19, Blk. 34, H.&T.C. Sur.
Rig up.
Sageland Oil Corp.'s No. 2 Pure-Bennett, 1,650 ft. from NW and 2,310 ft. from SW, Sec. 16, Blk. 34, H.&T.C. Sur.
Rig up.
Sinclair Prairie Oil Co.'s No. 5 Archenhold, 2,310 ft. from SE and 2,310 ft. from SW of Sec. 23, Blk. 5, H.&T.C. Sur.
Pumped 416 bbls. 24 hrs.
Tex-Mex Pet. Corp.'s No. 2-B Shell-Sloan, 2,310 ft. from NE and 990 ft. from NW, Sec. 16, Blk. 5, H.&T.C. Sur.
T.D. 2,595 ft.
Tex-Mex Pet. Corp. et al's No. 3 Llano-Owens, 1,650 ft. from NW line and 2,310 ft. from SW line, Sec. 16, Blk. 5, H.&T.C. Sur.
Location.

WINKLER COUNTY

Magnolia Pet. Co.'s No. 6 Scarborough, 1,650 ft. from S line and 330 ft. from W line of Sec. 4, Blk. 22-C, P.S.L. Sur.
Drlg. 2,750 ft.
Magnolia Pet. Co.'s No. 7 Scarborough, 1,650 ft. from N line and 990 ft. from E line of Sec. 18, Blk. 7, P.S.L. Sur.
Drlg. 2,495 ft.
R. S. Mathews et al's No. 1 Evans, 1,320 ft. from N line and 1,320 ft. from W line, Sec. 46, Blk. 73, P.S.L. Sur.
Spudded and S.D.
Sid Richardson's No. 3-B W. D. Johnson, 330 ft. from SE and 2,310 ft. from SW, Sec. 22, Blk. 34, H.&T.C. Sur.
Location.
Sid Richardson's No. 1-H Scarborough, 2,310 ft. from E line and 650 ft. from S line of Sec. 4, Blk. C-22, P.S.L. Sur.
Location.
Sid Richardson's No. 5-A Scarborough, 330 ft. from W and 190 ft. from S, Sec. 1, Blk. 22-C, P.S.L. Sur.
Moving in machine.
Richardson's No. 6 Scarborough, 330 ft. from N line and 2,310 ft. from W line, Sec. 18, Blk. 174, P.S.L. Sur.
Set csg.; T.D. 2,539 ft.
Sinclair Prairie Oil Co.'s No. 3 W. F. Scarborough, 102 ft. from the N line, 1,650 ft. from E line, Sec. 1, Blk. 77, P.S.L. Sur.
Drlg. 2,560 ft.

Texas Panhandle Wildcats

Week Ending July 23

CARSON COUNTY

Empire Gas & Fuel Co.'s No. 1 C. S. Seiber, 1,326 ft. from E line, 330 ft. from S line of SE Sec. 10, Blk. 7, I.&G.N. Sur.
Drlg. 2,245 ft.
Hagy et al's No. 2 Bernard, C NE SE Sec. 44, Blk. 4, I.&G.N. Sur.
Location.
Hagy et al's No. 1 Sullivan, C NW Sec. 44, Blk. 4, I.&G.N. Sur.
Drlg. 2,000 ft.
Stanolind O. & G. Co.'s No. 2 L. C. McConnell, 330 ft. from N line, 330 ft. from W line, E½ SW Sec. 187, Blk. 3, I.&G.N. Sur.
Fishing 3,065 ft.

Texas Co.'s No. 2 E. Cooper, 330 ft. from S line, 330 ft. from W line, S½ Sec. 6, Blk. 9, I.&G.N. Sur.
Drlg. 3,110 ft.; showing oil and gas.

CHILDRESS COUNTY

Humble Oil & Ref. Co.'s No. 1 B. P. Smith, 1,327 ft. from S line and 1,327 ft. from E line of Sec. 27, H.&G.N. Sur., Blk. 9.
Fishing 3,800 ft.; showed 420 ft. of S.W. on D.S. test at 3,780 ft.

DALLAM COUNTY

Eben Warner's No. 1 Jarbie, 1,530 ft. from S line, 415 ft. from W line, Sec. 2, B.&B. Sur.
Fishing 3,200 ft.

GRAY COUNTY

Cambrian Oil Co.'s No. 2 L. H. Webb, 990 ft. from N line, 330 ft. from E line of E½ NE Sec. 62, Blk. 25, H.&G.N. Sur.
C.O. after shot; T.D. 2,655 ft.
Continental Oil Co.'s No. 8 Finley-Brown, 990 ft. from E, 330 ft. from S line, Sec. 32, Blk. B-2, H.&G.N. Sur.
C.O. 3,051 ft.
Champlin Ref. Co.'s No. 7-D J. McLaughlin, 990 ft. from W line, 330 ft. from N line of NE Sec. 33, H.&G.N. Sur., Blk. 2-B.
S.D. 3,120 ft.
Dixon Creek Oil Co.'s No. 1 Benedict, 330 ft. from S and 330 ft. from W, Sec. 114, Blk. 3, I.&G.N. Sur.
Fishing 3,202 ft.
Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines, S½ Sec. 2, Blk. M-21, T.C.R.R. Sur.
Location.
Hoffman Oil Co.'s No. 1 D. M. Massey, 330 ft. from S line, 330 ft. from E line of 40-ac. of W 20-ac. of Sec. 41, H.&G.N. Sur., Blk. 25.
Spudded and S.D.
Johnson et al's No. 1 Thut, 330 ft. from N and 150 ft. S of S. A. Sweig.
Drlg. 1,650 ft.
Niaps Oil Corp.'s No. 1 Cole, 330 ft. from S and 330 ft. from W, Sec. 104, Blk. 3, I.&G.N. Sur.
Moving in.
Shell Pet. Corp.'s No. 2 B. E. Finley, 1,331 ft. from E line, 150 ft. from S line of N 479 acres of Sec. 17, B. E. Chaney Sur.
C.O. 3,098 ft.
Southwest Prod. Co.'s No. 1 T. Cobb, 1,320 ft. from S line, 990 ft. from E line, NE Sec. 184, Blk. 3, I.&G.N. Sur.
Drlg. 2,340 ft.
Stanolind O. & G. Co.'s No. 1-B W. E. Cobb, 330 ft. from N line, 330 ft. from E line of SW Sec. 165, Blk. 3, I.&G.N. Sur.
Put on pump 3,330 ft.
Texwell Oil Co.'s No. 1 J. C. McConnell, 330 ft. from S line, 330 ft. from W line, SW SW Sec. 174, Blk. 3, I.&G.N. Sur.
Drlg. 2,815 ft.

HUTCHINSON COUNTY

Badger Oil Co.'s No. 6 Lewis, 330 ft. from S line, 330 ft. from E line, SE Sec. 8, Blk. 25, B.S.&F. Sur.
Drlg. 3,255 ft.
Brownie Oil Co.'s No. 1 Ware, 330 ft. from N and 330 ft. from W, Sec. 124, Blk. 4, I.&G.N. Sur.
Fishing 1,182 ft.
Harry Stekol's No. 1-G J. A. Whittenburg, 330 ft. from W line, 990 ft. from N line, Sec. 89, G.C.&S.F. Sur., Blk. 3, but located in Hannah Prewitt Sur. No. 3.
C.O. 3,086 ft.
Huey et al's No. 1 Christian, 220 ft. from S and 330 ft. from W, Sec. 33, Blk. Y, A.&B. Sur.
Cellar.
Phillips Pet. Co.'s No. 3 A. Yake, 7,552 ft. from N line, 330 ft. from W line, Sec. 36, H.&T.C. Sur., Blk. 47.
Drlg. 1,800 ft.
Remo Oil Co.'s No. 1 Mankins, SW cor. SE SE Sec. 54, Blk. 13, H.&G.N. Sur.
Cellar.
Stanolind O. & G. Co.'s No. 4-C Ware, 330 ft. from N line, 1,650 ft. from W line, Sec. 20, Blk. M-21, T.C.R.R. Sur.
Location.
Texas Co.'s No. 1 W. E. Herring, 1,200 ft. from E line, 1,200 ft. from N line of W 1,594 acres of the E. Almaguire Sur.
S.D. 2,624 ft.
Trippiehorn Bros.' No. 2 R. C. Ware, 330 ft. from E line and 990 ft. from S line of E half NE Sec. 123, Blk. 4, I.&G.N. Sur.
C.O. after shot; T.D. 3,170 ft.

KNOX COUNTY

C. C. Christie's No. 1 Moore, Sec. 87, Blk. 45, H.&T.C. Sur.
Location.

MOORE COUNTY

Phillips Pet. Co.'s No. 2 J. C. Wilson, Sec. 167, Blk. T-3, T.&N.O. Sur.
Set csg.; T.D. 2,314 ft.

WHEELER COUNTY

Alma Pet. Co.'s No. 1-B Johnson, 330 ft. from N line, 330 ft. from W line, W½ NE Sec. 47, Blk. 25, H.&G.N. Sur.
S.D. 2,448 ft.
Bowers & Carvers' No. 1 L. B. Sims, 330 ft. from N line, 330 ft. from E line of SW SE Sec. 60, Blk. 17, H.&G.N. Sur.
Drlg. 1,550 ft.
Dyke Oil Co.'s No. 1 G. W. Sitter, 330 ft. from N line, 330 ft. from E line, N½ NW Sec. 28, Blk. 24, H.&G.N. Sur.
Drlg. 535 ft.
Johnson and Barrett's No. 1, NW cor. NE Sec. 24, Blk. 13, H.&G.N. Sur., 11 miles E and S of Shamrock.
Rig up.
Mid-Continent Pet. Corp.'s No. 6 J. S. Carwile, 990 ft. from N line, 990 ft. from E line of NE Sec. 51, H.&G.N. Sur., Blk. 24.
C.O. 2,343 ft.
Myers & Kennedy's No. 1 Harvey, 660 ft. from S and E lines of NW Sec. 67, Blk. 13, H.&G.N. Sur.
T.D. 2,255 ft.; to P.B.
Shell Pet. Corp.'s No. 1 Bush, 330 ft. from N line, 330 ft. from E line, N½ NE Sec. 48, Blk. 24, H.&G.N. Sur.
Pumped 235 bbls. in 6 hrs.; T.D. 2,943 ft.
Smith Bros.' No. 1 A. Plummer, 330 ft. from N line, 330 ft. from E line, N½ SW Sec. 45, Blk. 24, H.&G.N. Sur.
Drlg. 2,390 ft.

Second Producer in Tuleta District, Bee County; Deep Production Near Bruni, Webb County

SAN ANTONIO, Tex., July 23.—The second producer in the area west of Tuleta in Bee County held much interest in Southwest Texas during the past week. Dirks Brothers' No. 1 Mrs. William Rapp, about 2 miles southwest of Tuleta and about 2,800 feet northeast of No. 1 Skinner, discovery, came in during the latter part of the week flowing at the rate of 8 bbls. per hour through 2-inch open tubing and on gas jet. The well is producing from 5 feet of Pettus sand topped at 3,890 feet. Interest was turned to the well last week when on a 15-minute drill stem test from 3,885-3,904 feet it built up 55 pounds pressure and showed 180 feet of oil and mud through one-quarter inch choke on bottom and five-sixteenths inch choke on top. Total depth is 3,904 feet.

Webb County

Considerable interest was also attracted to the second deep well near Bruni in Webb County when it gave indications of making a good producer. United Production Co.'s No. 2 Bruni, in the West Cole Field and 800 feet northeast of the company's No. 1 producer, topped sand at 3,395 feet and on a six-minute drill stem test from 3,396-3,421 feet it showed 22 fourbles of 41.7 gravity oil and had a working pressure of 100 pounds. It is now waiting on cement after setting 7-inch casing and it will probably be the middle of the week before it will be brought in. These two wildcats are the deepest in the Laredo district and may be the beginning of a deep drilling campaign in the area. The discovery well, No. 1 Bruni, had sand from 3,410-13 feet and from 3,414-17 feet and is making only a small amount of high gravity oil. No. 2 found the sand higher than the discovery and was drilled deeper into the sand. Operators are now planning to drill the discovery well deeper into the sand in hopes of completing it for a good producer.

Bee County

About 5 miles southeast of Beeville in Bee County, Heep Oil Co.'s No. 1 J. C. Wood, in the F. Crane Survey, has been abandoned as dry with total depth of 6,010 feet. Considerable interest has been shown in this well throughout its entire drilling. Caesar Oil Co.'s No. 1 Ruckman in the Mancha Survey has been abandoned as dry with total depth of 3,408 feet. It tested salt water in sand from 3,380-88 feet. Howeth & Swiger's No. 1 Marie Schramm estate, in the Hugh O'Brien Survey, about 3 miles west of Papalote and 4 miles south of Skidmore, was drilling at 4,385 feet.

North Pettus Field

The North Pettus Field marked up only one completion during the past week. H. H. Weinert's No. 2 Grady Smith, 660 feet northeast of No. 1, has been completed for an estimated 10 bbls. per hour with total depth of 3,714 feet. Magnolia Petroleum Co.'s No. 5 Porter, 425 feet from No. 4 well, was running tubing and preparing to bring in with total depth of 3,655 feet. Top of sand was encountered at 3,645 feet. Magnolia's No. 6 Porter, 660 feet east of No. 3, was drilling at 2,650 feet. Houston Oil Co.'s No. 3-B Neihaus was drilling at 2,630 feet.

Angelita Field

Two wells in the recently discovered Angelita Field of San Patricio County were having considerable trouble getting a drill stem test. Atkins-O'Neil and Continental Oil Co.'s No. 2 Welder, two locations south of Circle W Oil Co.'s No. 1 Welder, topped sandy shale at 5,368 feet and cored to 5,377 feet, recovery being very poor. As yet the well has been unsuccessful in getting a satisfactory drill stem test and it is possible a string of casing will have to be set before it can be tested. Same operators' No. 1-A Welder topped sand at 5,441 feet and bottomed hole at 5,447 feet. The sand is said to be better looking than any yet encountered in the area, but to date it has also been unable to get a satisfactory test. Late in the week four drill stem tests had already been made, all of which were considered failures. It may be necessary to run a string of casing in this well to give it a good test.

Sinton Area

In the Sinton area of San Patricio County, Plymouth Oil Co.'s No. 2-A Welder, 1,320 feet due east of No. 1-A, had a stuck drill pipe at 5,300 feet. The well was plugged back from 5,548 to 5,300 feet and was preparing to core to the 5,400-foot sand. Plymouth's No. 1-B Welder, 3,500 feet northwest of No. 1-A, was coring below 5,400 feet. West of the Plymouth producer, Petrol Corp.'s No. 1 R. H. Welder, in the De la Garza Survey, was drilling at 4,000 feet. Heep Oil Co.'s No. 3 R. Welder in the Loupey Survey, was drilling shale at 2,547 feet. Near Gregory and in the George H. Paul Subdivision, Section 58, Jane Oil Co.'s No. 1 Ragsdale Brothers was drilling at 5,100 feet. It topped Discorbis at 5,025 feet.

Guadalupe County

About 5 miles southeast of Darst Creek in Guadalupe County, J. Elmer Thomas and others' No. 1 A. J. Mauermann, in the DeLabaume Survey, was moving in a rig. In the northeastern part of the county and near Kingsbury, Hollifield's No. 1 Bailey was preparing to set 6⅝-inch casing at 2,183 feet. On a 15-minute drill stem test from 2,183-93 feet it showed one-third barrel of fluid with a trace of oil. Total depth is 2,193 feet. About 8 miles southwest of Seguin, Diamond Half Oil Co.'s No. 1 Ball, in the L. H. Peters Survey, was drilling shale at 1,430 feet.

Jim Hogg County

In southern Jim Hogg County, Sun Oil Co.'s No. 2-E M. Guerra & Son, 3,000 feet west and 3,500 feet south of No. 1-E, was drilling 1,780 feet.

Starr County

Nine Sun Oil Co. producers in the Las Cuevitas Survey in the northwestern part of Starr County went on production a week ago under regulations set up by the Texas Railroad Commission. An allowable of 60 bbls. per well daily was established for the field. It is reported the arrangements for the 30-day open flow test had not been completed. Circle W Oil Co.'s No. 1 Block, northern part of the county and in Survey No. 167, was drilling below 2,400 feet.

In the Jeffries Lambeth area of Starr County, Smith-Tex Oil Co.'s No. 1 Starr County was reported drilling in heaving shale 3,520 feet. It had the regular Jeffries Lambeth sand which tested dry from 2,400-26 feet. Another sand from 2,700-55 feet had a strong odor of oil with considerable gas.

Hidalgo County

About 7½ miles north of Mercedes, in Hidalgo County, Union Sulphur Co.'s No. 1 American Rio Grande Land & Irrigation Co. has been abandoned with total depth of 6,431 feet. Same operators are moving in derrick for No. 2 American Rio Grande about 1¼ miles southwest of No. 1, and 400 feet from south and east lines of tract, in Block 86, North Capisallo district. In the southwestern part of the county, Davis & Harrison's No. 1 Lula George, in Porcion 41, Ancient Jurisdiction of Reynosa, was drilling 3,620 feet.

Duval County

In the Driscoll Pool of Duval County, Continental Oil Co.'s No. 2-A Clara Driscoll Sevier, second deep test for the field, had sand with a show of oil and gas from 3,518-35 feet, and on a 10-minute drill stem test from 3,518-25 feet it built up 150 pounds pressure but failed to show any oil. At last report it was drilling. At present the field has only one deep producer, Continental's No. 1-A Clara Driscoll Sevier, recent discovery. About 5 miles south of San Diego and in the northwest corner of the H.&W. Survey, Sun Oil Co.'s No. 1 Moreno was drilling 5,770 feet.

Government Wells

The Government Wells Field added five completions during the week. Humble Oil & Refining Co.'s No. 29 White, bottomed hole at 2,251 feet and has been completed for 29 bbls. per hour through three-quarters inch choke. Humble's No. 30 Paul White was completed for 8 bbls. per hour on pump at 2,262 feet. Reynosa Oil Co.'s No. 7-D Duval Ranch was completed for 10 bbls. per hour through one-half inch choke at 2,295 feet. Russ and others' No. 4 E. Riley bottomed hole at 2,273 feet and has been completed for 15 bbls. per hour. Sun Oil Co.'s No. 65 Weiderkehr made 26 bbls. per hour at 2,287 feet.

Nueces County

In Nueces County, Midland Oil Co.'s No. 1 S. M. Noakes, in the Gregora Fairas grant, was coring 5,425 feet. Stanolind Oil & Gas Co.'s No. 2 Stratton, in Section 13 of the De Abajo grant, was drilling below 4,300 feet. It had a show of gas from 4,170-79 feet.

Live Oak County

In the Lucas gas field of Live Oak County, Houston Oil Co.'s No. 25 Cartwright had sand from 5,253-58 feet with a small amount of oil and gas. At last report it was trying to complete. About 3 miles east of Whitsett, Lion Oil & Refining Co.'s No. 1 P. E. McNeill, in the Jane Curry Survey, was drilling 2,730 feet.

Atascosa County

In Atascosa County, J. R. B. Moore's No. 1 A. Riley, in the F. Anthony Survey, was drilling 1,196 feet in rock.

Wildcat Operations in Southwest Texas

Week Ending July 21

ATASCOSA COUNTY

J. R. B. Moore's No. 1 A. Riley, center of Blk. 2 of survey, or 6,300 ft. from S line and 3,500 ft. from E line of county in F. Anthony Sur.
Drlg. rock 1,196 ft.

BANDERA COUNTY

Parkford et al's No. 1 Mrs. R. L. Duke, G.H.&S.A. Sur., Sec. 7.
Material.

Peerless O. & G. Co.'s No. 1 Garrison Sur. No. 506, 1,500 ft. from N and 2,700 ft. from E lines of Sur. (8 mi. SW of Medina).
Set 500 ft. of 15¼-in. csg.

BASTROP COUNTY

N. Pennett's No. 1 Carroll, 330 ft. NW line, 990 ft. SW line of 40-ac. tract in Mays Sur.
S.O. 2,238-42 ft.; T.D. 2,260 ft.; comp. 25 bbls. daily.

BEE COUNTY

Caesar Oil Co.'s No. 1 Pullin Est., F. Lewis Sur.
Rigging up.

Caesar Oil Co.'s No. 1 Ruckman, 330 ft. from S and W lines of E½ of Ruckman 150-ac. tract in Mancha Sur.
T.D. 3,408 ft.; abd.

R. A. Davids' No. 1 Baptist Church, center of 2-ac. church lot, or 150 ft. E of N line of Pullin est., 27-ac. tract in F. Lewis Sur.
Rigging up.

Dirk Bros.' No. 1 Mrs. Wm. Rapp, 990 ft. E line, 1,650 ft. S line of SE Sec. 5, Uranga grant, 3,300 ft. NE of Skinner's No. 1.
T.D. 3,902 ft.; D.S. test 3,899-3,902 ft.; 15 min. 200 ft. oil, 50 lbs. pressure; comp 8 bbls. per hr.; 2-in. open tubing, on gas jet.

Falvey et al's No. 1 Gardner, 330 ft. out of NE cor. of Gardner tract.
Drlg. 1,511 ft.

R. H. Feltner et al's No. 1 Theis, 2,376 ft. E line, 990 ft. S line of 1,034-ac. tract, or 3,640 ft. E line and 3,070 ft. N line of Caetno Rivers Sur.
Drlg. 1,700 ft.

Heep Oil Co.'s No. 1 J. C. Wood, 466 ft. from N and E lines of F. Crane Sur.
T.D. 6,010 ft.; abd.

Howeth & Sivigers' No. 1 Marie Schramm est., 2,332 ft. from W line, 466 ft. from N line of the Schramm 150-ac. tract in Hugh O'Brien Sur. 4,466-ac. block.
Drlg. 4,385 ft.

Elbert Jeanes' No. 1 G. L. Courtney, 1,600 ft. from E line, 330 ft. from S line of tract, G. A. Kerr Sur., 1½ miles NE of Pettus.
Rigging up and S.D.

McLain et al's No. 2 Laura Weiss, B.&B. Sur., 660 ft. E of No. 1.
T.D. 100 ft.; prep. to start up.

Phillips Pet. Co.'s No. 1 Morgan, 4,950 ft. from W, 3,270 ft. from N lines of 12,920-ac. tract, Ewles Sur.
T.D. 6,519 ft.; trying to wash to bottom.

Worth Oil Co.'s No. 1 Rutledge, 1,000 ft. from N line and 300 ft. from E line of A. Hadley Sur.
Spud.

BEXAR COUNTY

Berry-Hays et al's No. 1 City, 450 ft. N line and 750 ft. E line of 175-ac. tract.
T.D. 946 ft.; comp. 50,000 bbls. wtr.

A. M. Blume's No. 3 Ridder, 2,500 ft. S line, 3,500 ft. W line of SW cor. of Munroe Sur., in J. M. Barrera Sur.
S.D. 440 ft.

J. G. Bowles' No. 1 Dillon, 750 ft. from road on E and 4,750 ft. from S line of survey, Manuel Delund Sur.
T.D. 1,182 ft.; fishing.

Dingman & Russell's No. 1 R. J. Coffey, 1,328 ft. from SE line, 1,086 ft. from SW line of 420-acre tract in Rodrigues Sur.
T.D. 1,326 ft.; P.B. 1,017 ft.; bailing.

Thos. Gorton's No. 1 Edward Jackel, 600 ft. from N line, 800 ft. from E line of tract in J. Ward Sur.
T.D. 500 ft.; S.D.

Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodrigues Sur.
T.D. 1,315 ft.; standing.

C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant.
T.D. 982 ft.; show of oil and gas from 968-82 ft.; W.O.C.

CALDWELL COUNTY

S. S. Cargill's No. 2 Damereau, 150 ft. from W line, 450 ft. from N line of D. Cooper Sur.
Top Edwards 2,260 ft.; S.O.; T.D. 2,262 ft.; testing.

F. P. Hynes et al's No. 1 Tramwell, 750 ft. from SE line and 330 ft. from NE line of tract in Ester Berry Sur.
Location.

Wilford Keen et al's No. 1 Wm. Ewalk, 150 ft. from E line and 150 ft. from N line of 126-ac. tract, or 3,650 ft. from N and 1,300 ft. from E lines of Jas. George Sur. (3¼ mi. from Lockhart).
T.D. 2,228 ft.; S.D.

Montevista Oil Co.'s No. 1 W. I. Pope, 1,000 ft. from W line and 1,750 ft. from S line of J. D. Rains Sur., in I. Rains Sur.
Rigging up.

M. C. Moore's No. 1 Lackey, 440 ft. NW line, 150 ft. NE line of Lackey's 193.75-ac. tract, or 450 ft. NW line and 2,600 ft. NE line of Damon Sur.
T.D. 1,510 ft.; S.D.

Newton Oil Co.'s No. 1 A. D. Mebane, 2 miles southwest of Lockhart.
Rigging up.

Wagner, Daniels & Stierene's No. 1 S. M. Blackwell, 4,350 ft. SW line, 1,500 ft. SE line of tract and survey in John Roe Sur.
Coring Buda 2,346 ft.

DEWITT COUNTY

Keystone Royalties' No. 1 L. T. Burns, 1,100 ft. from W and 600 ft. from S line of 303-ac. tract in L. G. Belcher Sur.
T.D. 3,274 ft.; S.D.

DUVAL COUNTY

Beer & Lewis' No. 1 Peters, Sur. 27.
Drlg. 1,050 ft.

(Continued on Next Page)

Southwest Texas Wildcats

(Continued from Preceding Page)

Buffalo-Texas Drlg. Synd., Inc.'s No. 1 Escobar, 700 varas from W line, 1,000 varas from N line of 930-ac. tract in Francisco grant.
Shale 3,217 ft.; S.D.

Dr. J. H. Butte et al's No. 1 Tom Graham, 1,122 ft. N line, 3,375 ft. W line, Sec. 672, E line of county and N line of San Diego. Location.

Chiquita's No. 2 Richardson, 250 ft. N and W line of survey and block in Blk. 3. Sur. No. 3.
T.D. 1,716 ft.; S.D.

Continental Oil Co.'s No. 2-A Clara, Driscoll Sevier, 3,675 ft. S and 1,000 ft. from E line of Sec. 448.
T.D. 3,535 ft.; show oil and gas 3,518-25 ft.; D.S. test 3,518-25 ft.; showed 150 lbs. pressure; no oil or water; drlg. ahead.

Cox & Hamon's No. 1 State.
S.D. 400 ft.

Tom Graham and Texon Royalty's No. 1 Parr, 2,000 ft. from N line, 2,500 ft. from E line of Pointenant Sur. No. 185.
Drlg. 3,600 ft.

Frank Gravis' No. 1 Hubbard, 960 ft. S line, 330 ft. W line of B.S.&F. Sur. No. 83.
Drlg. 200 ft.

O. R. Jeffers' No. 1 Cadena, 1,000 ft. from N line and 330 ft. from E line of Subd. No. 2 in Jose Marcello, Hino Josa grant. Location.

W. C. McBride's No. 1 Hagist, 330 ft. from N and E lines of SE 80 ac. of Sec. 1.
Drlg. 725 ft.

O'Byrne & Jennings' No. 1 Benavides, 3,734 ft. from S cor. and 330 ft. from W line at right angles, Sur. 355.
Drlg. 1,240 ft.

Sun Oil Co.'s No. 1 Moreno, 330 ft. from E line and 2,000 ft. from S line of NW cor. of H.&W. Sur. 537, in Sec. 540 (5 mi. S of San Diego).
Drlg. 5,770 ft.

Witherspoon et al's No. 1, Richardson Sur. No. 5.
T.D. 1,005 ft.; S.D.

Louis Yeager's No. 1 Yeager, 694 ft. from W line, 1,527 ft. from S line of Sur. No. 38.
T.D. 865 ft.; S.D.

FRIO COUNTY

Amerada Pet. Co.'s No. 2 Halff & Oppenheimer, begin at most easterly N cor. of John H. Gibson Sur. No. 16, thence SE along NE line of Sur. 2,100 ft., thence SW at right angles 800 ft. (4 mi. SW of Pearsall).
T.D. 6,098 ft.; reaming.

GILLESPIE COUNTY

Derre et al's No. 3 Lindig.
Drlg. 283 ft.; no report.

Powers et al's No. 2 Lindig, 12,700 ft. from S line, 1,333 ft. from W line of Maria Josephine Guerrera Sur.
Location.

GOLIAD COUNTY

Duval Oil Corp.'s No. 1 Lucy Borden, 330 ft. NE cor. of 124-ac. tract in Alberto Guitteres Sur., 1¼ miles W of Charco.
Location.

Jane Oil Co.'s No. 2 Grady Smith, 990 ft. SW lines of B.&B. Sur., 330 ft. SE line of Magnolia's 504-ac. tract.
T.D. 3,714 ft.; S.D.

Jim Kendricks & J. M. O'Byrne et al's No. 1 Runge State Bank, 330 ft. from NW line and 330 ft. from SW line of 142-acre tract.
T.D. 3,745 ft.; D.S. test 3,740-45 ft.; 70 ft. oil and mud; ¼-in. choke bottom; 5/16-in. choke top.

H. H. Weinert's No. 2 Grady Smith, 660 ft. NE of No. 1, B.&B. Sur.
T.D. 3,714 ft.; D.S. test 9 min., 3,652-3,-714 ft.; 250 ft. mud and oil; est. 10 bbls. per hr.

Oceanic Pet. Co.'s No. 1 Fromme, 1,500 ft. S line, 1,200 ft. W line of 62-ac. tract in P. D. Dexter Sur., 10 miles N of Goliad.
Rigging up.

GONZALES COUNTY

Weinert et al's No. 1 Aug. Kallis, in Aug. Kallis' 150-ac. tract, just over Guadalupe County line in Gonzales County, 2,450 ft. N of river and in center of tract in Ira Nash Sur.
Location.

GUADALUPE COUNTY

Diamond Half Oil Co.'s No. 1 E. A. Ball, 3,000 ft. NE line and 3,500 ft. SE line of L. H. Peters Sur., 8 miles SW of Pequin.
Drlg. shale 1,430 ft.

Diamond Half Oil Co.'s No. 1 Kallies, 3,-340 ft. N of river and 150 ft. from W line of tract in Ira Nash Sur.
Rigging up.

Hollifield's No. 1 Bailey, near Kingsbury.
T.D. 2,192 ft.; prep. to set 6⅝-in. csg. at 2,183 ft.

J. Elmer Thomas et al's No. 1 A. J. Mauermann, 5,250 ft. from W line and 22,300 ft. from S line of Joseph DeLabaume Sur.
Moving in rig.

HIDALGO COUNTY

D. D. Oil Co.'s No. 1 Mrs. L. George, 330 ft. from N and W lines of 40-ac. tract in Share 13, Porcion 41.
Location.

Davis & Harrison's No. 1 Lula George, 300 ft. from S and 700 ft. from E lines of Tract 13, Porcion 41, Ancient Jurisdiction of Reynosa.
Drlg. 3,620 ft.

Rogers et al's No. 1 Fairbanks, 7 miles S of McAllen.
Drlg. 210 ft.

Otto Woods' No. 1 John Lawrence, 530 ft. from W, 300 ft. from N line of Tract 274, Porcion 39, Ancient Jurdiction of Reynosa.
T.D. 2,063 ft.; S.D.

Union Sulphur Co.'s No. 1 American Rio Grande L. & I. Co., 400 ft. S and W of NE cor. of Lot 239, Blk. 59 (½ mi. N of Mercedes).
Sandy shale and lime 6,431 ft.; T.A.

Union Sulphur Co.'s No. 2 American Rio Grande L. & I. Co., 400 ft. from S and E lines of tract, Blk. 86, North Capisallo district.
Moving in.

JIM HOGG COUNTY

Santa Clara's No. 1 W. W. Jones, 6,100 ft. from N line, 1,700 ft. from W line of Share 27, cor. of Blk. No. 111, in the Hino Jose grant.
Drlg. shale 2,969 ft.

W. G. French's No. 1 T. T. French, 5,700 ft. S line, 9,360 ft. W line of grant, or cor. of Blks. 67 and 68 in the Los Moritos grant.
T.D. 2,376 ft.; S.D.

Sun Oil Co.'s No. 1 Martinez Est., center of tract No. 125, in Las Animas grant.
Location.

JIM WELLS COUNTY

Camp's No. 1 B. W. Irvena, 900 ft. from N and E lines of Sec. 11.
T.D. 500 ft.; S.D.

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred.
Rigging up.

KARNES COUNTY

Auld & Ricker's No. 1 Schaefer, 1,200 ft. from S line, 300 ft. from W line of N. Schaefer 447.5-ac. tract in A. W. Belvins Sur.
Location.

R. E. Ceveaux et al's No. 1 Tom Campbell, 330 ft. S and E cor. of farm and survey, J. R. Backer Sur., 12½ miles SW of Falls City.
Spud and S.D.

Harrison Oil Co.'s No. 1 Martin Schaefer, 330 ft. from SW line, 1,200 ft. from SE line of L.P.I.A.&M. Sur.
Drlg. 600 ft.

C. L. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur.
T.D. 1,790 ft.; standing; may deepen to Yegua.

Martin's No. 1 Houston, Thomas Leople Sur. No. 761.
Top black shale 1,028 ft.; T.D. 1,985 ft.; to deepen.

KENDALL COUNTY

Walter Bradley's No. 1 Werner, John F. Torrey Sur.
Drlg. 465 ft.

Pierce & Garvey's No. 2 D. Werner, 1,140 ft. E, 420 ft. S line of J. F. Perry Sur., 6½ miles N of Kendalia.
Drlg. 465 ft.

KERR COUNTY

Edmiston Oil Corp.'s No. 1 Whitworth, 1,140 ft. from S line and 1,833 ft. from E line of Sec. 1,439 of the H.E.&W.T. Sur.
Drlg. 675 ft.; no report.

Jeff Love and Eastland Oil Co.'s No. 5-E Jeff Love, 1,500 ft. SE of No. 1 and 1,580 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
T.D. 1,410 ft.; S.D.

J. F. Morrissey et al's No. 1 Karge, 1,400 ft. from S line and 600 ft. from E line of survey, Sec. 1, B.S.&F. Sur.
T.D. 20 ft.; S.D.

G. F. Schreiner's No. 3 Love, 1,420 ft. from W line, 1,260 ft. from S line of Sur. No. 1,594.
Drlg. 1,300 ft.

KLEBERG COUNTY

J. S. Brown's No. 1 Antone Dietz, Sec. 7, Hotch estate.
Drlg. shale 3,068 ft.

Harry Clark's No. 1 V. J. Kivlin, 360 ft. from E line, 400 ft. from S line of Sec. 39, Blk. 3, Kleberg Town & Improvement Co. Sur.
T.D. 2,311 ft.; testing.

LEE COUNTY

Jas. E. Pederson's No. 1 Turner, David Hudson Sur.
Drlg. shale 5,150 ft.

H. A. Sheriack's No. 1 Otto, 736 ft. from NW line, 1,310 ft. from NE line of 57.5-ac. tract in Thomas Morrow Sur.
T.D. 1,495 ft.; S.D.

LIVE OAK COUNTY

J. H. Durbin's No. 3 Marbach, 1,850 ft. from W line and 450 ft. from S line of 428-ac. tract in Stephen Hays Sur.
Location.

Houston Oil Co.'s No. 25 Cartwright, J. Sandman Sur.
T.D. 5,258 ft.; making gas and small amount of oil.

Lion O. & R. Co.'s No. 1 P. E. McNeill, 1,-320 ft. from SW lines and 1,370 ft. from SE lines of Jane Curry Sur.
Drlg. 2,730 ft.

Unity Pet. Co.'s No. 1 Terrill, begin at NE cor. of Reifert's 142-ac. tract, which is Blk. 7, go S along W line of survey 2,000 ft., thence E at R/A 316 ft. in C. Scanlon Sur.
S.D. 700 ft.

Witherspoon Oil Co.'s No. 3 Marbach, 330 ft. from NW line and 1,320 ft. from SW line of Subd. 15, 1,000 ft. N of No. 1, Jardin Sur.
Location.

Witherspoon Oil Co.'s No. 2 H. Clements, 100 ft. S of No. 1 junked hole, Eliz. Jordan Sur.
Cemented 7-in. csg. at 515 ft.; W.O.C.

Ike Taylor's No. 2 Griffith, 1,200 ft. from E line and 1,151 ft. from S line of lease in Tract 5, D. Osborne Sur.
Rigging up.

MAVERICK COUNTY

Stroman & Wright's No. 2 Debona, 440 varas E line, 280 varas S line of Sur. No. 1.
T.D. 855 ft.; S.D.

Ollie Wright's No. 1 L. Little, 500 ft. from N line, 3,500 ft. from E line of Potter Sur. No. 65 (16 mi. N of Eagle Pass).
Drlg. shale 1,037 ft.

McMULLEN COUNTY

Buford & Golightly's No. 1 Masuer, 760 ft. N line and 840 ft. E line of Sec. 32, H.T.&B. Sur., 5 miles W of Wentz.
T.D. 1,010 ft.; S.D.

BAROID AND AQUAGEL

DRILLING MUDS used *exclusively* on BERRY No. 1

The World's Deepest Well

ONCE again, BAROID and AQUAGEL muds have helped make drilling history!

While the principal credit, of course, goes to those General Petroleum Corporation officers and employees who supervised and drilled the world's deepest well, both AQUAGEL and BAROID, which were used throughout, played an important part in enabling this great depth to be reached with regular drilling equipment.

BAROID PRODUCTS

BAROID: Extra-Heavy Colloidal Drilling Mud.

AQUAGEL: Trouble-Proof Colloidal Drilling Mud.

MUD SCREENS: For Removing Cuttings and Abrasive Material from Drilling Muds.

STABILITE: A Chemical Mud Thinner.

Stocks Carried and Service Men Available in all Active Oil Fields.

BAROID SALES CO.

LOS ANGELES • HOUSTON

National Pigments & Chemical Co., St. Louis

Hall & Howard's No. 2 Lark, Scrugham Sur. T.D. 1,074 ft.; testing.
Jane Oil Co.'s No. 2 Lark, 1,320 ft. N line of Survey and 150 ft. E of No. 1 in Scelingham Sur.
T.D. 1,032 ft.; comp. 15 bbls. day.
Don Long's No. 1 Nueces Land & Livestock Co., Sec. 111.
Moving in rig.
C. C. Shumway's No. 7 Shiner, 1,950 ft. from W line and 330 ft. from N line of Sec. 52. Moving in rig.
Texio Oil Co.'s No. 3 Jacobs, 5,293 ft. NE line and 330 ft. SE line of Benham Sur.
T.D. 937 ft.; comp. 15 bbls. day.

MEDINA COUNTY

Scoggins & Sanders' No. 1 L. W. Burrell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 295.
T.D. 1,390 ft.; S.D.

MENARD COUNTY

Duffey-Chedster's No. 1 Mears Wilkinson, 660 ft. S line and 660 ft. W line of T.&N.O. Sur., Sec. 23, Abstract 756.
Rigging up and S.D.

NUECES COUNTY

Clymore Prod., Inc.'s No. 4-A Ingram, 660 ft. S and E lines of Lot 5, Sec. 6, Peters Subd. No. 2.
T.D. 4,808 ft.; comp. 60 bbls. gasoline day.
Holliday et al's No. 1 Hutchins, 330 ft. from N line, 94 ft. from W line of 62-ac. lease.
T.D. 3,815 ft.; S.D.
Houston Oil Co.'s No. 2 W. W. Walton, 1,960 ft. from S line, 425 ft. from W line of Walton's 432-ac. tract.
T.D. 4,867 ft.; comp. 300 bbls. daily.
Houston Oil Co.'s No. 3 W. W. Walton, 465 ft. from W line and between N and S lines of 16-ac. tract.
Rigging up.
Midland Oil Co.'s No. 1 S. M. Noakes, start where road crosses river, thence 1,400 ft. S, thence 300 ft. W at R/A, in Gregoria Farias grant.
Coring 5,425 ft.
South Mineral Corp.'s No. 2 Ocher, 2,569 ft. from S line, 417 ft. from E line of 95-ac. tract in Sur. 418, Sec. 2
Sand 4,861-68 ft.; W.O.C.
Stanolind O. & G. Co.'s No. 2 Stratton, 1,980 ft. from N line, 660 ft. from W line of NE Sec. 13, DeAbajo grant.
Drlg. 4,300 ft.
Texas Seaboard's No. 1 Ed Jurica, 150 ft. from NE line, 500 ft. from W line of Blk. 32.
Set 800 ft. surface csg.

REAL COUNTY

H. J. Heartwell et al's No. 2 L. J. Haby, 694 ft. from W line and 2,153 ft. from S line of A.B.&M. Sur. No. 175.
T.D. 2,838 ft.; fishing bailer.

SAN PATRICIO COUNTY

Atkins-O'Neil and Continental's No. 2 Welder, 466 ft. from S and E lines of lease, Blk. 2, two locations S of Circle W Oil Co.'s No. 1 Welder.
T.D. 5,377 ft.; trying to test.
Carpenter et al's No. 1 Sadler, 300 ft. each way out of SE cor. Blk. 1, Sec. 32, T. Perez Sur.
T.D. 5,056 ft.; S.D.
Continental and Atkins & O'Neil's No. 1-A Welder, 584 ft. from NE line, 466 ft. from SE line of Blk. 2 Hart Sur
T.D. 5,447 ft.; trying to test.
Heep Oil Co.'s No. 1 R. H. Welder, 300 ft. from N line, 467 ft. from W line of Welder 5.46-ac. tract.
Rigging up.
Heep Oil Corp's No. 2 R. Welder, 466 ft. from S line, 2,000 ft. from E line of Adeline Welder tract in Victor Loupsey Sur.
Drlg. 800 ft.
Heep Oil Co.'s No. 3 R. Welder, 2,000 ft. from E line and 9,920 ft. from S line of lease in Loupsey Sur.
Drlg. shale 2,547 ft.
Jane Oil Co.'s No. 1 Ragsdale Bros., Sec. 58, Geo. H. Paul Subd.
Drlg. 5,100 ft.
Josey Oil Co.'s No. 1 Welder, 1,500 ft. NW of Atkins & O'Neil and Continental Oil Co.'s No. 1 discovery well.
T.D. 6,017 ft.; P.B. to 5,100 ft.; drilled to 5,373 ft.; 18 bbls. fluid daily, 30% wtr.; tubing pressure 1,550 lbs.; csg. pressure 1,750 lbs.
Petrol Corp.'s No. 1 R. H. Welder, 467 ft. from S and E lines of 300-ac. tract.
Drlg. 4,000 ft.
Plymouth Oil Co.'s No. 1-B Welder, 2,500 ft. NW of No. 1-A.
Coring 5,400 ft.; stuck D.S.
Plymouth Oil Co.'s No. 3-A Welder, 1,320 ft due E of No. 1-A.
T.D. 5,548 ft.; P.B. to 5,300 ft.
Stanolind O. & G. Co.'s No. 2 Stratton, 1 mile NE of No. 1, completed 2 yrs. ago. Location.

STARR COUNTY

Chas. H. Andrews et al's No. 1 A. Guerra San Jose grant, 330 ft. from N and 150 ft. from E line of Sec. 6 (NE part of county).
T.D. 501 ft.; S.D.
R. S. Boling's No. 1 M. M. Garcia, Sur. No. 918.
Drlg. 2,250 ft.
C. R. Borah's No. 1 Arcadio Guerra, 150 ft. from E line and 330 ft. from N line of Share 6, San Ramon grant.
Location.
Clements & Goldston's No. 1 J. M. Longfellow, 330 ft. out of NW cor. of Sur. No. 231.
Location.
Jim Cloud, Inc.'s No. 1 J. Rodriquez, Share 35, Porcion 58, ancient jurisdiction of Camargo.
S.D. 160 ft.
Cooper & Andrews' No. 1 J. M. Martinez, NW cor. of Sec. 135.
Old well, to deepen; T.D. 3,200 ft.
Dean Bros.' No. 1 M. M. Garcia, 2,150 ft from S line, 4,600 ft. from W line of Sur No. 916.
Drlg. sandy shale 1,842 ft.
Great Plains Oil Co.'s No. 1 Sanches, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344.
T.D. 2,905 ft.; S.D.
H. C. Harter's No. 1 Sanches et al, 530 ft. from N line and 450 ft. from W line of Share 72, Porcion 73.
T.D. 220 ft.; S.D.
Merle Gundy's No. 1 Block, NW of Sur. 167
Drlg. 2,400 ft.
Mitchell's No. 1 Kelsey-Bass, 150 ft. from N. 1,150 ft. from E lines of Share 5, Porcion 75, ancient jurisdiction of Camargo.
Location.
R. M. Mitchell's No. 1 Seabury, 4,000 ft from N line, 150 ft. from E line of Share 5, in Per Sur. No. 75.
T.D. 210 ft.; S.D.
Smith-Tex. Oil Co.'s No. 1 Starr County Cattle Co., 150 ft. from NW cor. N. ½ Blk. 24, Porcion 89.
Drlg. heaving shale 3,520 ft.
Smith-Tex Oil Co.'s No. 2 Starr County Cattle Co., 150 ft. out of NW cor. of E ½ of Blk. 37, Porcion 89.
Drlg. 1,410 ft.; no report.
Sun Oil Co.'s No. 2 E. M. Guerra & Son, 6,000 ft. N of Starr-Jim Hogg County line and 660 ft. from W line of "E" lease, Moving in material.
E. L. Younkin's No. 1 Kelsey Bass, 330 ft from S line, 7 ft. from W line of Blk. 19 in Porcion 87.
Drlg. 1,110 ft.

TRAVIS COUNTY

Humble O. & R. Co.'s No. 1 P. C. Wells 150 ft. NW line, 150 ft. NE line of farm 185 ft. SW line and 1,000 ft. SE line of James P. Kemp Sur.
T.D. 1,240 ft.; S.D.

UVALDE COUNTY

Evans & Johnson's No. 1 Farris, J. Hammons Sur.
T.D. 1,050 ft.; S.D.
Lon Evans' No. 1 Stone, 2,566 ft. from N line and 1,473 ft. from E line of survey 8½ miles NE of Uvalde, Kent. Sur. No 552.
T.D. 129 ft.; S.D.
Humble Oil & Ref. Co.'s No. 1 R. L. Anderson, 7,450 ft. SW of NE line and 9,100 ft. SE of NW line of J. J. Guerra Sur (3 mi. NE of Uvalde).
T.D. 2,663 ft.; fishing.
T. T. Word's No. 2 Trulove, 40 ft. N, 42 deg E of No. 1.
T.D. 770 ft.; S.D.

WEBB COUNTY

Fidelity Exploration Co.'s No. 1 Soldivar, 1,300 ft. from E line, 2,600 ft. from N line of Sur. 457.
Drlg. 1,700 ft.
Weekley Oil Corp.'s No. 1 R. Salvidor, 1,269 ft. from E line and 243 ft. from N line of Sec. 657, Borrego grant (SE part of county).
T.D. 457 ft.; S.D.
Wolcott et al's No. 1 D. Green, 1,865 ft. from W line and 1,552 ft. from N line of Sur. No. 283.
T.D. 450 ft.; S.D.

WILLACY COUNTY

W. W. Silk's No. 1 Stillman, Lot 16, Blk. 30, Santa Rosa Subd., Share 44.
Spud.

ZAPATA COUNTY

F. G. Delaney et al's No. 1 Bolpe et al, 330 ft. from N cor. of Blk. 1, Share 1, of Delaney Subd., Portion 32.
Rigging up.
Merle Gunby's No. 1 Haines, 200 ft. from SE and SW lines of Blk. 4, Alice Haines Subd., in Cuevitas grant.
Location.
H. V. & W. Oil Co.'s No. 1 Cuellar.
T.D. 1,125 ft.; S.D.
Muckelroy's No. 1 Flores, on NE line and 75 ft. from SE line of Lot 2, Blk. 30, Muckelroy Subd. of Porcion No. 37.
Derrick.
Joe Palmer's No. 11 S. Vela, 330 ft. from NE and SE lines of Blk. 170, Share 4 of L. Grillo grant (3 mi. E of Redondo Pool).
Rigging up.

Southwest Texas Proven

Week Ending July 21

NORTH DALE POOL—BASTROP COUNTY

Watt L. Saunders' No. 1 Harris, 1,100 ft. from SW line, 2,330 ft. from NW line of John Maximilian Sur. No. 22.
Top Austin 2,149 ft.; T.D. 2,338 ft.; S.D.

NORTH PETTUS FIELD—BEE COUNTY

Bryce McCandless' No. 1 Beeville Natl Bank, 330 ft. ou. of NW cor. of 142-ac. tract in G. B. Meyers Sur.
Building derrick and moving in rig.
Houston Oil Co.'s No. 3-B Niehaus, 259 ft. from NW line and 330 ft. from SW line of "B" lease.
Drlg. 2,630 ft.
Kemp Oil Co.'s No. 1 Weldon & Lackey, 1,694 ft. from NW line, 1,607 ft. from SW line of 1,000-ac. tract in J. Gomez Sur.
Derrick.
Magnolia Pet. Co.'s No. 4 Porter, 500 ft. W of No. 3 and offset to Sun's No. 1 Scarborough.
T.D. 3,670 ft.; prep. to bring in.
Magnolia Pet. Co.'s No. 5 Porter, 330 ft. from S line of lease, 425 ft. from No. 4.
T.D. 3,655 ft.; prep. to bring in.
Magnolia Pet. Co.'s No. 6 Porter, 330 ft from S line of lease, 660 ft. E of No. 3.
Drlg. 2,650 ft.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur.
T.D. 1,055 ft.; set 6⅝-in. csg.; S.D.
J. F. Harrison's No. 4 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 98-ac. tract in J. Montes Sur.
T.D. 831 ft.; S.D.

EAGLE HILL POOL—DUVAL COUNTY

Cloyes and Alpha's No. 1 Haglst, 330 ft. from N and E lines of Blk. No. 16, in Sur. No. 265.
Drlg. 1,825 ft.; no report.
Shasta Oil Co.'s No. 3 J. R. Foster, 990 ft. from N line and 165 ft. from W line of 70-ac. tract in Sec. 206.
Moving in rig.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Bridwell Oil Co.'s No. 5 C. W. Hahl, 330 ft. from N and E lines of Blk. No. 28, Sec. 250.
Location.
Bridwell Oil Co.'s No. 1 Schoolfield & O'Brien, 330 ft. from N and W lines of Blk. No. 13, Sur. No. 78.
Location.
Harrison & Abercrombie's No. 1 Serna, 2,336 ft. from E line and 936 ft. from S line of Sec. 523.
Derrick.
Humble O. & R. Co.'s No. 30 Paul White, 2,310 ft. from E line and 330 ft. from S line of Sur. No. 249.
T.D. 2,262 ft.; pumping 3 bbls. hr.
Humble O. & R. Co.'s No. 31 Paul White, 3,630 ft. from E line and 990 ft. from S line of Sur. No. 249.
Derrick.
Humble O. & R. Co.'s No. 32 Paul White, 3,300 ft. from E line and 990 ft. from N line of Sur. No. 249.
Location.
K. O. T. Oil Co.'s No. 4 Luncell, 330 ft. from S and W lines of NW of SW, or 1,750 ft. from S line and 330 ft. from W line of Sur. No. 48.
Drlg. 1,700 ft.
Magnolia Pet. Co.'s No. 1 Duval County Ranch, 330 ft. N line and E line of Sur. No. 58.
Drlg. shale 4,050 ft.
Magnolia Pet. Co.'s No. 29 Duval, 1,650 ft. from W line, 2,310 ft. from S line, Sur. 208.
Derrick.
Magnolia Pet. Co.'s No. 1-C Hall, 990 ft. S line and 330 ft. E line of lease.
T.D. 2,373 ft.; swabbing.
Magnolia Pet. Co.'s No. 2-C Hahl, 1,650 ft. from S line and 330 ft. from E line of Sur. No. 61.
Drlg. 2,150 ft.
Magnolia Pet. Co.'s No. 3-A Hahl, 330 ft. from S and E lines of Sur. No. 45.
Location.
Magnolia Pet. Co.'s No. 3 Hahl-Burch, 1,650 ft. from S line and 330 ft. from E line of SW of Sur. No. 43.
T.D. 2,254 ft.; comp. 4,000,000 ft. gas.
Magnolia Pet. Co.'s No. 3 Tankersley, 330 ft. from S and W lines of Sur. No. 46.
Location.
Reynosa Oil Co.'s No. 7-D Duval Ranch, 330 ft. from N and W lines of S½ S½ Sec. 362.
T.D. 2,295 ft.; comp. 10 bbls., hr.; ½-in. choke.
Reynosa Oil Co.'s No. 8-D Duval Ranch, 990 ft. from W line and 330 ft. from N line of SW of SW of Sur. No. 362.
T.D. 21 ft.; S.D.
Russ et al's No. 8-A Hahl, 430 ft. from N line and 230 ft. from W line of NE of SW of Sur. No. 46.
Derrick.
Russ et al's No. 4 E. Riley, 330 ft. from S line, 660 ft. from W line of SW NW Sec. 46.
T.D. 2,273 ft.; comp. 15 bbls., hr.
J. D. Clair Smith's No. 2 Norton, 330 ft. from S and W lines of Sur. No. 62.
Derrick.
Sun Oil Co.'s No. 33 Weiderkehr, 330 ft. from S line, 990 ft. from E line of Sur. No. 359.
Location.
Sun Oil Co.'s No. 65 Weiderkehr, 660 ft. W of No. 64 and 660 ft. S of No. 60 in Sec. 359.
T.D. 2,287 ft.; comp. 26 bbls., hr.

SARNOSA POOL—DUVAL COUNTY

E. R. Thomas' No. 1 Weil, 330 ft. from SW and NW lines of Sur. No. 130.
Drlg. 104 ft.

KINGSVILLE POOL—KLEBERG COUNTY

Ryals & Bartlett's No. 1 Flato, 150 ft. from N line, 30 ft. from W line of NE SE Sec. 40, of Kleberg Town & Improvement Co. Sur.
T.D. 985 ft.; S.D.

JACOB POOL—McMULLEN COUNTY

Kennon's No. 3 Lark, 660 ft. from N line, 330 ft. from E line of E½ of Blk. 15, Scrugham Sur.
T.D. 1,032 ft.; W.O.C.
Loma Oil Co.'s No. 27-A Jacob, 1,320 ft. N, 15 deg. E of No. 22.
T.D. 1,068 ft.; R.U. to pump.
Stewart-Smith & Storey's No. 1 L. Jacobs, 3,801 f.. due S of Texio's No. 3 Jacobs, in John Padden Sur No. 8.
T.D. 864 ft.; testing.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 5-C M. Guerra & Son, 1,320 ft. NE of No. 4-C La Sacatosa grant.
Location.

AGUA DULCE—NUECES COUNTY

Camp. et al's No. 2 King, 990 ft. S of N line, 330 ft. W of E line of Sec. 24, R. Garza Sur.
T.D. 6,021 ft.; P.B. to 5,455 ft.; testing.
Clymore Prod.'s No. 3-B J. C. Ingram, 660 ft. from E line, 500 ft. from N line, Sec. 9, Blk. 3, Peters Subd.
Location.
Clymore Prod.'s No. 3 Ingram, 660 ft. from E and S lines, Sec. 6, Blk. 6, Peters Subd.
Derrick.
Clymore Prod. Co.'s No. 3-D Ingram, 660 ft. from S and W lines of Lot No. 7, Sec. 6, Peters Subd. No. 2.
Location.
Garland Clymore's No. 2-A Ollie Purl, 660 ft. from E line and 660 ft. from S line of Blk. 4, Sec. 6, Ross Peters Subd.
T.D. 4,804 ft.; W.O.C.
Clymore Prod. Co.'s No. 1-C Ollie Purl, 66[illegible] ft. N and E lines of Lot No. 2, Sec. [illegible] Peters Subd. No. 2.
Moving in rig.

LOS OLMOS POOL—STARR COUNTY

Goodwin Yantis' No. 6 Kelsey Bass, Sec. [illegible] Portion 87, Ancient Jurisdiction of Camargo.
T.D. 600 ft.; S.D.
Los Olmos O. & G. Co.'s No. 57 Kelsey Bass, 150 ft. from N line, 568 ft. from W line of SE SW Sec. 6, Porcions 75, 76 and 77.
T.D. 640 ft.; standing; depth corrected.

JENNINGS POOL—ZAPATA COUNTY

Texas Co.'s No. 47 Jennings, N 20 deg. [illegible] ft., E 275 ft. and 77 deg. 30 ft., E [illegible] ft. from No. 46.
T.D. 1,249 ft.; comp. 15 bbls. day.
Texas Co.'s No. 50 Jennings, N 12 deg. [illegible] ft., E 750 ft. from Clay No. 46.
Spud.

Improvement at Chicago Is Temporarily Halted

(Continued from Page 47)

grades of fuel. Prices show no further change but the current rate of industrial activity does not present any very promising indications of potential demand. Steel operations remain at a comparatively low level, with some improvement expected later.

Naphthas

Naphthas and solvents continue to mark time on a firm price structure. Buying is showing no particular feature and sellers are quite firm.

Lubricants

Lubricants here continue easy, with no heavy buying anywhere along the line. Jobbers are not much interested and compounders show little inclination to extend recent scale of takings.

Wax

Wax is still in relatively good demand, and at firm and comparatively high prices. The trade is discussing whether or not added advances may be expected.

Coke

Petroleum coke is seasonally quiet. The coal business is somewhat unsettled although operating fairly well under its own code. The advance buying of this material has been nothing to create excitement.

Better Feeling Apparent in the Eastern Market

(Continued from Page 39)

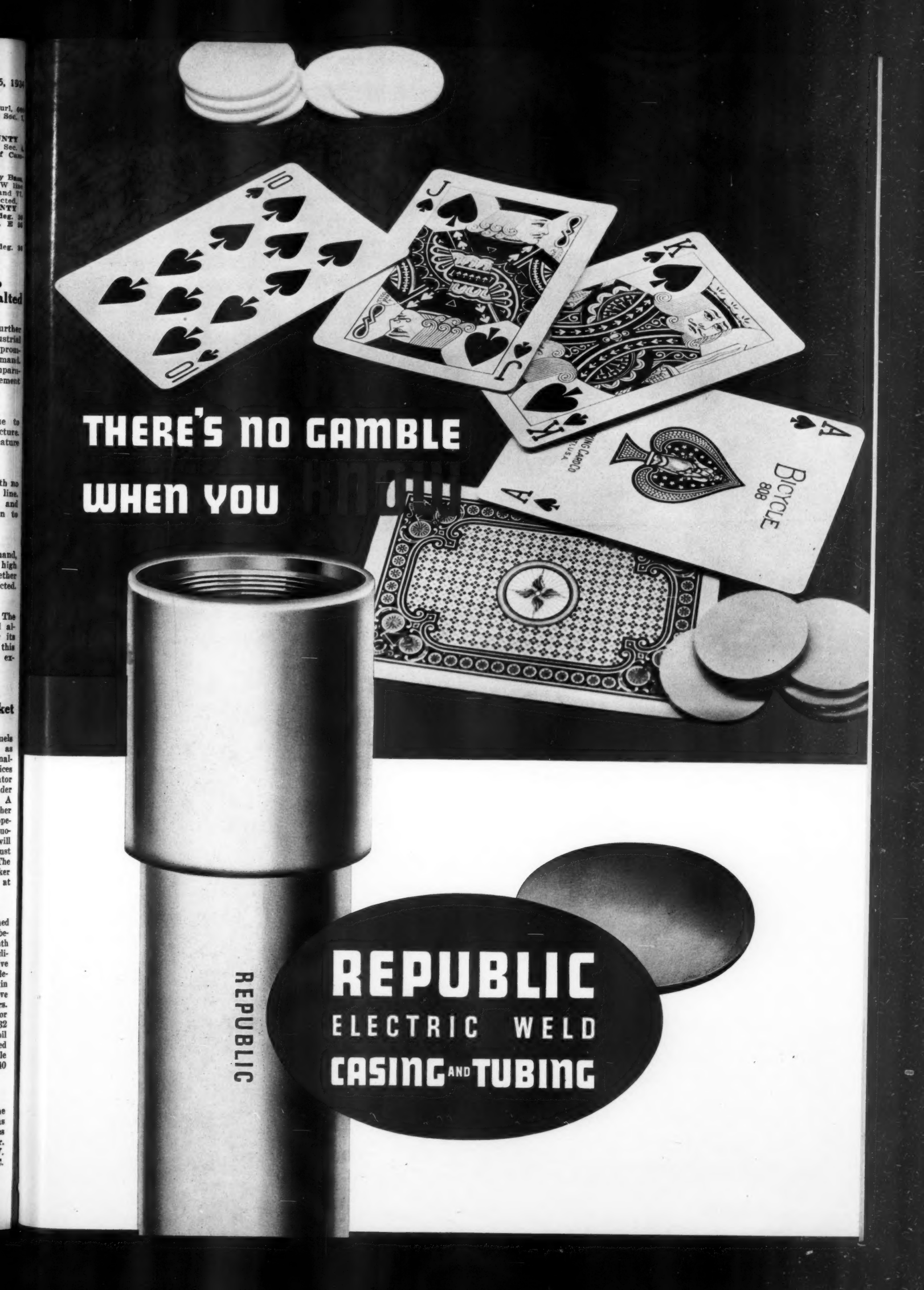
arisen as to whether the market for fuels is in as strong a statistical position as has been thought in recent months. Finally there is the investigation of fuel prices which was authorized by Administrator Ickes last week which will get under way the latter part of this month. A majority of the trade feel that the higher prices are entirely justified and are hopeful that sellers will maintain their quotations at least until fall when it will be possible to definitely determine just what the demand for fuels will be. The tone of the kerosene market is weaker with considerable material offered at 5¼ cents.

Lubricants

The lower prices for steam refined stocks and bright stocks which have become effective since the first of the month have not stimulated the demand. Additional price reductions became effective on some grades during the week. The demand for neutral oils is stronger than in the case of stocks but these prices also have been reduced by several manufacturers. No. 8 color bright stock in barrels for export is quoted over price range of 32 to 34 cents and 200-3 color neutral oil 34 to 36 cents. Wax prices are unchanged from last week except the crude scale which is being quoted at 3.20 to 3.40 cents per pound.

ACME GAS OFFICERS

TORONTO, Ontario, July 21.—At the recent annual meeting of the Acme Gas & Oil Co. at Toronto, Hon. W. D. Ross was elected a director, succeeding Mr. McCullough. The other directors are: W. R. P. Parker, A. B. Stodart, J. H. C. Waite and Dr. W. F. James.


THERE'S NO GAMBLE
WHEN YOU
BICYCLE
808
REPUBLIC
REPUBLIC
ELECTRIC WELD
CASING AND TUBING

INSPECTED INSIDE TOO

Three years ago, Republic introduced Electric Weld Casing and Tubing. Sales progress at first was slow. Buyers were justifiably sceptical. They asked for facts, and we gave them. We made no attempt to hide the fact that this product was welded. On the contrary, we made sales capital by proving the weld 100% perfect. We showed that only by the Republic Electric Resistance Welding Process could pipe be made commercially that possessed the attributes of straightness, roundness, and uniformity of wall thickness, strength and size. We played up the fact that, because it was made from clean strip steel and formed cold, it was entirely free from scale. And today, *there is no other method of making oil country casing or tubing that produces a product so definitely free from inside defects,* and known to be so, because the inside surface of every length is inspected as it is formed, right up to the point of welding.

Split a length of pipe produced by *any* hot-rolled process, compare the inside with Republic Electric Weld, and draw your own conclusions.

Records show that nine and one-half million feet of Republic Electric Weld Casing and Tubing has been set by leading producers in all fields during the last three years.

May we send you additional facts?

REPUBLIC
ELECTRIC WELD
CASING AND TUBING

REPUBLIC STEEL CORPORATION
GENERAL OFFICES YOUNGSTOWN, OHIO

Engineers in Every Branch of Petroleum Industry Use Plug Type Valves for Many Purposes

By L. G. E. BIGNELL
Petroleum Engineering Editor

The development of fittings for well-head connections has been governed largely by the type of casing and tubing used in finishing the wells and these details have in turn been influenced by the formation pressures and well capacities. The first use of drive pipe was in the Drake well drilled in 1859. Soft surface formations that kept caving into the hole made it difficult to drill with the light tools used at this well so Mr. Drake suggested that a cast-iron pipe be driven into the soil and cleaned out inside with the tools and bailer and gradually worked down to the hard pan found about 39 feet from the surface.

The hole was then drilled through the rock to 69½ feet total depth and the next operation was to run a string of 2-inch brass tubing, through which the well was pumped by a pitcher pump manually operated. The wells finished immediately after the Drake well were somewhat deeper and produced from the second and third sands at total depths of about 200 and 400 feet.

Most of these wells had to be pumped and steam power was used to operate the working beam and the upper end of the tubing terminated in a large cup into which the oil spilled as it reached the top of the tubing and from this vessel it was run by trough or pipe to wooden tanks buried in the ground near the derrick. Later, as the deeper wells were drilled and the formation pressures were enough to cause the fluid to flow it was found that the tubing could be extended upward into the derrick high enough to permit the oil to be delivered directly into the top of round wooden tanks erected at convenient places on the lease to handle the oil to the barrels first used to convey it from the lease, and later to the pipe lines.

When wells had enough natural pressure to cause the oil to flow it was necessary to fit the top of the tubing with valves by which the flow could be controlled. The early valves were of the common gate type and usually screwed on the pipe. With wells less than 4,000 feet deep the working pressures did not exceed a few hundred pounds and valves tested up to 1,000 pounds pressure were usually suitable for use around the well head. One valve usually sufficed and it was not until deeper wells with pressures in excess of a thousand pounds per square inch at well head were completed that the so-called "christmas-tree" fittings and elaborate well-head connections were used. It is not uncommon now to find wells controlled with valves and fittings tested up to 10,000-pound working pressure.

Completing Wells

Cable tool wells require approximately one string of casing to shut off each important water sand. The holes are drilled to a formation next below the water sand and the casing run with a shoe that forms a shutoff by cutting into the solid rock and as material caves into the hole back of the casing a complete shutoff of the water is secured.

In the early days casing was frequently set with seed bag and other forms of packers to shut off the water. Later cement was dumped into the hole and the lower end of the casing string worked down into it to form a tight seal to shut off waters from the lower portion of the hole.

With the rotary rigs the heavy mud satisfactorily shuts off water during drilling, and the number of strings of casing needed to complete a well are materially reduced. In cable tool drilling it is customary to recover the outer strings of casing run to shut off upper waters while the hole was drilled after the flow string has been set above the producing formation.

As wells were drilled deeper the

Worm gear operated plug type valve on 14-inch diameter cast iron salt water pipe line—Duval County to Corpus Christi, Texas

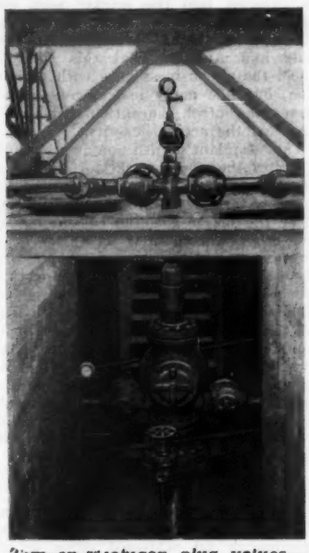
hydrostatic pressure increased and larger quantities of cement were necessary, and to place this behind the casing brought about the development of the modern well-cementing processes.

Typical wells may be selected in the Oklahoma City Field with original casinghead pressures up to 2,000 pounds that had a string of 15½-inch surface casing, a 9-inch string set at the base of the Pennsylvania formation and 6⅝-inch casing run inside of it for a flow string. The surface string was cemented its full length and securely cemented in the bottom of the well cellar also. The 9-inch string was also cemented securely and several hundreds of sacks of cement placed to completely shut off water and gas from all upper formations.

With these two strings of pipe properly secured, the top of the 6⅝-inch flow string was fitted with three master gates usually tested for 5,000-pound pressures. The valves are controlled by long connections that terminate in hand wheels permitting remote control of the flow of the well.

Plug Valves Used

Gate valves and the Nordstrum lubricated plug valves and Timken Michigan "screw-lift" plug valves are used for this purpose and standard "christmas trees" for the Oklahoma City Field have finally been developed. Early wells experienced much trouble with connections being cut out by the sand forced up the casing with the oil and gas. So long as the flow of



Timken-Michigan plug valves—5,000-pound test, at well head of deep wells in Big Lake field, Reagan County, Texas

this fluid and gas was streamline, the sand did no damage but when the streamline flow changed to turbulent flow the sand would quickly cut out any kind of metal that could be used for connections.

The plug type valves are being used extensively for well-head connections, but their uses are by no means restricted to those places for all over the lease the plug valves are finding application. Steam and water lines, boiler fittings, mud lines, blowout preventers and tank battery service are a few of the many uses and as many as 60 plug valves have been used around a drilling well in the Gulf Coast area. The valves are made in all sizes from one-half inch to 20-inch, although the 16 and 20-inch are made to order only.

The plug valve closes or opens by a quarter turn of the handle. It is impossible for line fluid or lubricant to be blown out through the lubricant ducts when the lubricant screw is removed. The simplicity of this type valve has appealed to production men and operators in every department of the industry because of the quick and complete opening and closing features which have many advantages.

Where the valves are used on wells with very high pressures they are provided with worm gear control so that the flow of fluid through the pipes will not be released or stopped too suddenly, as would be the case if the usual quarter turn of the valve lever was all that was necessary to open or close the valve. Also to operate against the higher pressures the worm gear provides a means of manually operating the valve in a simple manner.

Completing West Texas Wells

In the Big Lake Field in Reagan County, Texas, the deep producing formation is known as the Ellenberger or Ordovician lime and lies unconformably below the Simpson at a depth of approximately 8,500 feet and is about 650 feet thick. The initial pressure in this zone at a depth of 8,500 feet was probably about 3,600 pounds per square inch. Bottom hole pressures taken in April, 1933, recorded 3,000 pounds.

The long string of 7⅝-inch casing is usually set on the Pennsylvanian lime between 8,100 and 8,300 feet and it is then necessary to penetrate a 1,900-pound gas zone, and keep the well alive at the same time. If the fluid head of the mud column is in excess of 1,900 pounds the circulation would be lost and it would be difficult, or at least very expensive, to complete the hole.

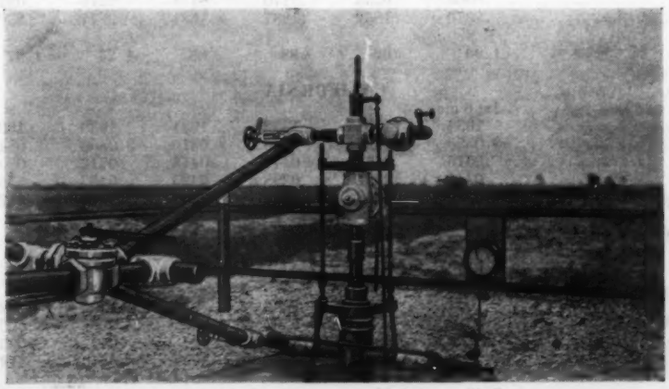
Clear water will exert a bottom hole pressure against this lime formation at 8,200 feet of about 3,600 pounds per square inch and will escape into the formation if used. Some means must be provided to carry the cuttings to the surface and it has therefore been found necessary to introduce about 800 feet of gas per barrel of water to reduce the weight of the fluid column to less than the formation pressure. To introduce this gas under high pressure it is allowed to enter the circulating pump discharge line at a point near the base of the standpipe, and is forced to the bottom of the hole through the interior of the drill pipe in the usual manner.

The water-gas mixture is liberated into the hole through the ports in the cone bits provided with roller bearings and one set of cones will usually penetrate the lime which varies from 40 to 120 feet in thickness.

To facilitate this drilling operation high pressure plug valves are used in the surface hookup during drilling and when the wells are completed and put on production the same type valves are used for the connections.

Most of these deep wells in the Big Lake Field that have been recently completed are finished with one Timken-Michigan 5,000-pound test pressure, gear-operated valve, 8-inch size, and two rod-operated valves of the same make, 4-inch

(Continued on Page 111)



Plug valve hook-up at casing and tubing head of Barnsdall Oil Co.'s well in Iowa field, Louisiana

Refined Oil Prices Were Stabilized at Higher Levels During the First Six Months of 1934

By W. T. ZIEGENHAIN

Refinery fuel oil and lubricating oil prices fared better during the first half of 1934 than gasoline. Since the trend of Mid-Continent refinery prices may be taken as an index for the country, it is interesting to note that the first six months' average for this year on 58-60 Mid-Continent U. S. Motor of below 60 octane is 3.7 cents per gallon, whereas the average for year 1933 was 3.11 cents. This increase of about one-half cent emphasizes the failure of the gasoline market to respond in proportion to the improvement in general conditions.

However, this comparison penalizes the 1934 average in that the 1933 yearly average is influenced by the price over last half of 1933 which was exceptionally high. Because of this fact it may seem fairer to judge the progress of the gasoline market so far this year by comparing the average of the first six months of this year with the average for the first six months of last year, and in that case and when taking the same grade of gasoline, this year's price of 3.7 cents compares more favorably with the 2.27-cent price of 1933. Looking at the progress in this light the increase for this year is approximately 1½ cents per gallon. If it were expected that this advantage be maintained throughout the latter half of this year, it would mean that the industry would have to receive an average of about 4½ cents per gallon to next January 1. At this period, such an average seems unlikely to be obtained.

Crude Market Stable

Because of the stability of the crude market in all areas even though it is admitted that East Texas has seriously overproduced, the refinery gasoline prices have fluctuated comparatively little over the first six months of this year. In that time, the low octane grade reached a top price of 4¼ cents. This came in the latter part of May and then touched 3⅛ cents early in April as the low. Furthermore, this stability in prices is emphasized if a comparison is made with the fluctuations existing throughout 1933. In that year, the price for that same grade went as low as 1⅞ cents and as high as 5 cents. The low came in the latter part of April of last year and the high was reached about the middle of September.

If one were to base his prediction of the future of the market on the comparison of gasoline prices this year to date with those of last year for the same period an optimistic air could be assumed. This does not seem justifiable however, in as much as there does not seem to be a chance for a stimulant to be injected into the market soon such as was given the market at the time the oil code was being developed last June, July and August. That this code has aided the oil business goes without question, but like many instruments of governmental control, the anticipated benefits exceeded the actual benefits.

The stimulant needed now is a strengthening of the crude market. If ample assurance could be given that the present price of crude oil would be supported after the major gasoline consuming season is passed, there could easily be an improvement in the average gasoline price throughout the country of one-fourth to one-half cent. Then if it would be possible to advance crude prices more nearly to a normal level, gasoline prices would benefit proportionately. It is the uncertainty of the crude market that has dampened efforts to advance gasoline prices, despite a rather favorable showing in the reduction of gasoline stocks, control of refinery runs and stability of the retail gasoline market.

Retail Prices

On January 1, 1934, the average net filling station price for regular grade gasoline in 50 scattered cities in the United States was 14.3 cents, tax omitted. During January, the average declined slightly and then regained the lost ground during February. Throughout March and April a few service station price reductions were made to reduce the average slightly. From the low on May 1 of 13.55 cents the average climbed during May and June to be re-established at slightly more than 14 cents on July 1. For comparison it should be mentioned that in the first six months of 1933 the average filling station price went below 11 cents at one time and remained below 14 cents throughout the entire half year. The average for the period a year ago would approximate 1½ cents less than the average retail price of this year.

In view of the rather steady refinery gasoline market and the constant level of retail gasoline prices, 1934 may be remembered as a year in which controlled supply acted as an effective balance wheel for the first time in history.

Natural Gasoline

Natural gasoline was the only product to show a lower average price during the first six months of this year than the average for 1933. The average of the Oklahoma 26-70 price was 2.24 cents for the first half of 1934. The average price for 1933 was 2.9 cents. A similar condition existed in California where the 75-85 372 endpoint material showed an average price in the first six months of this year of 5.15 cents and an average of 4.62 cents for 1933.

The natural gasoline market is now very near to the low point that it reached in 1933. In June of last year it sold for seven-eighths cent.

A majority of the natural gasoline industry is disappointed in the failure of natural prices to hold within a narrow range of refinery U. S. Motor prices. At the beginning of the year there was only about one-fourth cent difference between the low octane refinery U. S. Motor price and the natural price. This gradually widened, however, until at present the difference is 2¼ cents. A program of price stabilization is being formulated which has as its objective the maintenance of a rather close differential between the refinery and the natural prices but many factors enter into this plan to make its early adoption difficult. The refining industry now generally recognizes the need to absorb a larger quantity of natural gasoline if it is to be relieved of competing with low vapor pressure natural gasoline as a motor fuel this winter. A 10-pound gasoline is being offered at the present time to jobbers throughout Minnesota, Michigan and Wisconsin and many of them are more receptive to this material.

At present the manufacturer of this material is forced to withstand a weathering loss up to 55 per cent of the original volume of the material so that it has not proved so profitable to him. This winter, however, 12, 14 and 15-pound natural gasoline can be offered in many northern states and this could be offered in a manner that would place refinery gasoline in a disadvantageous position. If this program is to be averted the major refiners will have to absorb more than they have taken over the immediate past and too if the natural gasoline industry expects this co-operation they, in turn, will probably be requested to adopt some sort of plan to control the output. It is with this in mind that several groups are meeting in Washington and the success of these meetings will probably determine the course of the natural market over the balance of 1934 and will also influence the course of the Mid-Continent refinery gasoline price.

Heavier Oils

What has been said about the course of the gasoline market might also be said of the kerosene market and the distillate market. Both have been stabilized and varied less than five-eighths of a cent between the high and the low throughout the entire six months' period from January 1 to July 1 of this year. At the present time they are at their low points

Average Yearly Published Prices on Most Important Refinery Products, 1925 to July, 1934

OKLAHOMA
(Price in tank car at plant)

	1st 6 mos. 1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
58-60 U. S. Motor gasoline, per gal. (below 60 octane)	$.0370	$.0311	$.0392	$.0345	$.0634	$ 0775	$.0795	$.0667	$.1031	$.1055
Natural gasoline, 26-70 (AA grade), per gal.	.0224	.0290	.0222	.03	.0524	.0683	.0734	.0575	.0946	.1202
41-43 water white kerosene, per gal.	.0330	.0279	.0315	.0231	.0358	.0517	.0517	.0461	.0727	.0445
24-26 fuel oil, per bbl.	.7067	.5048	.4548	.4356	.7043	.706	.7694	.9792	1.3072	1.0908
32-36 U.G.I. gas oil, per gal.	.0214	.0146	.0146	.0127	.0227	.0265	.0247	.0299	.0419	.0368
200 vis. neutral, 3 color, per gal. (15-30 cold test)*	.0912	.0778	.0778	.0924	.1059	.0966	.0947	.1032	.1072	.1139
124-126 wax, per lb.	.0365	.0253	.0170	.0174	.0216	.0321	.0394	.0294	.0471	.0516
150-160 D color bright stock, per gal.	.2370	.1852	.1837	.1631	.2977	.3368	.2310	.....	.....	.....
Crude (36 A.P.I. gravity), per bbl.	**1.00**	**.62**	**.88**	**.63**	**1.23**	**1.37**	**1.31**	**1.38**	**2.13**	**1.87**

CALIFORNIA

	1st 6 mos. 1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
U. S. Motor gasoline, per gal. (low octane)	$.0555	$.0523	$ 0546	$.0510	$.0806	$.0849	$.0919	$.0873	$.1134	.....
Natural gasoline, 75-85, 370-400 e.p., per gal.	.0515	.0462	.0447	.0418	.0712	.0803	.0726	.093	.1465	.....
38-40 kerosene, per gal.	.0441	.0384	.0398	.0425	.0455	.0569	.0611	.07	.0745	.....
15-20 fuel oil at tidewater, per bbl.	.6000	.5162	.5548	.5836	.6346	.6724	.8892	.9221	.9813	.....
Crude (25 A.P.I. gravity, Signal Hill), per bbl.	**.94**	**.84**	**.83**	**.76**	**1.16**	**1.05**	**.96**	**1.00**	**1.37**	**1.35**

PENNSYLVANIA

	1st 6 mos. 1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
58-60 U. S. Motor gasoline, per gal. (below 60 octane)	$.0510	$.0505	$.0568	$.049	$.0737	$.0905	$.0982	$.09	$.1273	$.1348
45 water white kerosene, per gal.	.0451	.0446	.0451	.04	.0501	.0651	.0635	.0646	.0885	.0656
Bright stock, 10-15 pour test, per gal.	.2900	.2407	.2466	.2094	.3373	.4745	.3186	.3326	.3954	.3824
Crude (in National Transit Lines), per bbl.	**2.49**	**1.86**	**1.88**	**1.81**	**2.55**	**3.69**	**2.98**	**2.87**	**3.51**	**3.50**

*No cold test specified before 1932.

but this has been influenced by the seasonal falling off in demand.

Gas oil and fuel oil have shown an appreciably higher average in price over the first six months of this year compared to the same period a year ago. An example of this is 24-26 fuel oil price which, during the first half of this year, averaged 70.67 cents per barrel. Over 1933 the average price on this product was 50.48 cents, this representing an advance of approximately 40 per cent.

U.G.I. gas oil recorded an average price over the first six months of this year of 2.14 cents a gallon against an average of

(Continued on Page 111)

Average Domestic and Export Refined Oil Prices Over the Past Three Years

(QUOTATIONS F.O.B. PLANTS AND TERMINALS)

	1st 6 mos. 1934			1933					1932				
GASOLINES—	Av. pr.			Av. pr.			1st	2nd	Av. pr.			1st	2nd
Oklahoma (Group 3):	for yr.	High	Low	for yr.	High	Low	6 mos.	6 mos.	for yr.	High	Low	6 mos.	6 mos.
U. S. Motor grades:													
Regular, 60-64 octane	.0447	.04¾	.04	.0363	.05½	.02⅛	.0257	.0469	.....	.....	.....	.....	.....
Premium, 65 octane and above	.0483	.05	.04¼	.0399	.06	.02⅝	.0282	.0516	.....	.....	.....	.....	.....
Third grade, below 60 octane	.0370	.04¼	.03⅛	.0311	.05	.01⅞	.0227	.0395	.0392	.05	.02⅛	.0381	.0403
60-62 400 (no octane rating)	.0384	.04⅜	.03¼	.0328	.05	.02	.0244	.0411	.0411	.05⅛	.02⅜	.0399	.0422
64-66 375	.0421	.04½	.03⅞	.0370	.05⅜	.02¼	.0269	.0471	.0444	.05⅜	.02¾	.0434	.0454
North Texas:													
U. S. Motor, below 60 octane	.0365	.04⅛	.03¼	.0303	.04¾	.01⅞	.0221	.0385	.0384	.04⅞	.02⅝	.0374	.0393
64-66 375	.0418	.04⅝	.03⅞	.0370	.05¼	.02¼	.0269	.0471	.0436	.05¼	.03⅝	.0429	.0444
Pennsylvania:													
U. S. Motor	.0510	.05⅝	.04½	.0505	.05¾	.04¼	.0469	.0541	.0568	.06⅞	.04	.0511	.0626
California:													
54-58, U. S. Motor	.0555	.08	.04	.0523	.08	.04	.0497	.0549	.0546	.06¼	.04¼	.0498	.0593
New York (Bayonne, N. J.):													
U. S. Motor, below 65 octane	.0591	.06¼	.05¾	.0554	.06¼	.04	.0503	.0605	.0643	.08	.05½	.0605	.0682
65 octane and above	.0616	.06½	.06	.0557	.069	.04½	.0529	.0624	.....	.....	.....	.....	.....
Gulf Coast (domestic):													
U. S. Motor, below 65 octane	.0514	.05⅞	.04¼	.0420	.05¾	.03	.0338	.0501	.....	.....	.....	.....	.....
U. S. Motor, 65 octane and above	.0544	.06	.05⅛	.0473	.06	.03½	.0396	.0550	.....	.....	.....	.....	.....
NAPHTHAS—													
Chicago:													
Stoddard solvent, 300 i.b.p.-410 e.p.	.0602	.06¼	.05½	.0536	.06⅜	.04¼	.0491	.0580	.....	.....	.....	.....	.....
NATURAL GASOLINES—													
Oklahoma (Group 3):													
26-70	.0224	.03⅜	.01¼	.0290	.05¼	.01	.0172	.0408	.0222	.03	.01⅜	.0190	.0254
California:													
75-85 375	.0515	.06¼	.04½	.0462	.06½	.03½	.0388	.0535	.0447	.05¼	.03¾	.0444	.045
KEROSENE—													
Oklahoma (Group 3):													
41-43 water white	.0330	.03⅝	.03⅛	.0279	.03½	.02¼	.0257	.0300	.0315	.04¼	.02⅜	.0317	.0313
North Texas:													
41-43 water white	.0313	.03½	.03	.0269	.03¼	.02⅛	.0247	.0291	.0309	.04¼	.02⅜	.0314	.0303
Pennsylvania:													
45 water white	.0451	.05⅜	.04	.0446	.05¼	.04	.0439	.0452	.0451	.05	.04	.0442	.0459
California:													
38-40 high burning test	.0441	.04¾	.04¼	.0384	.04¼	.03½	.0358	.0410	.0398	.04½	.03¾	.0392	.0404
New York (Bayonne, N. J.):													
41-43 water white	.0540	.05¾	.05¼	.0522	.05½	.04¾	.0522	.0522	.....	.....	.....	.....	.....
Gulf Coast:													
41-43 water white	.0449	.04¾	.04¼	.0408	.04½	.03¾	.0393	.0423	.....	.....	.....	.....	.....
FURNACE OILS AND TRACTOR FUELS—													
Oklahoma (Group 3):													
32-36 straw zero	.0268	.03	.02⅜	.0232	.03	.01⅝	.0206	.0258	.0218	.03⅛	.01⅝	.0179	.0256
38-40 straw	.0277	.03	.02½	.0237	.03	.01⅝	.0218	.0256	.0238	.03⅜	.01¾	.0198	.0277
New York (Bayonne, N. J.):													
36-40	.0536	.05½	.05¼	.0515	.05½	.05	.05	.0530	.0472	.05	.03¾	.0453	.0492
21 (industrial)	.0417	.04¾	.04	.0370	.04	.03½	.035	.0379	.....	.....	.....	.....	.....
GAS OIL, DIESEL OIL AND FUEL OIL—													
Oklahoma (Group 3):													
U.G.I. gas oil	.0214	.02⅜	.02	.0146	.02⅛	.00⅞	.0116	.0176	.0146	.02⅛	.01	.0122	.0171
28-30 zero to 10	.9290	.95	.90	.7568	.95	.60	.7135	.8000	.6397	1.00	.45	.487	.7923
Below 16	.5750	.62½	.50	.3899	.50	.27½	.3298	.4500	.3250	.45	.20	.2596	.3904
California:													
27 plus Diesel	1.0000	1.05	.90	.8406	.95	.75	.8212	.8600	.7432	.85	.70	.7538	.7327
15-19 bunker (at tidewater)	.6000	.60	.60	.5162	.55	.50	.5173	.5250	.5548	.60	.50	.5635	.5462
Gulf Coast:													
28-30 Diesel	1.800	1.80	1.80	1.585	1.80	1.50	1.50	1.670	.....	.....	.....	.....	.....
New York (Bayonne, N. J.):													
28-30 Diesel (lighterage 6½ cents bbl.)	1.948	1.95	1.89	1.760	1.95	1.65	1.65	1.86	1.502	1.65	1.30	1.3538	1.65
Bunker C (New York Harbor)	1.258	1.30	1.20	.8625	1.20	.70	.7250	1.00	.7269	.85	.60	.6615	.7923
NEUTRAL OILS—													
Oklahoma (Group 3), zero to 10 cold test:													
200, 3 color, 15-30 cold test	.0912	.10¾	.08	.0778	.08¼	.07¼	.0733	.0822	.0778	.08¾	.07½	.0785	.0770
Pennsylvania:													
200, 3 color, 10 pour test	.290	.30½	.26	.1872	.26	.14	.1633	.2111	.1956	.21	.17	.1992	.1921
Gulf Coast:													
200, 3 pale oil	.0740	.07½	.06¼	.0605	.06½	.05½	.0612	.0597	.0643	.07	.06	.0658	0627
200, 5-6 red oil	.0640	.06½	.05½	.0494	.05½	.04½	.0515	.0473	.0506	.06	.05	.0531	.05
California:													
200, 2½-3 pale	.2300	.23	.23	.1177	.23	.09½	.0981	.1373	.0820	.10	.07¾	.0822	.0818
BRIGHT AND STEAM REFINED STOCKS—													
Oklahoma (Group 3):													
150-160, zero to 10, D color	.2370	.24½	.22¼	.1852	.24	.12¼	.1510	.2193	.1837	.22	.15½	.1854	.1819
600 light green, S.R.	.0712	.07½	.07	.0558	.07	.04	.0462	.0653	.0462	.05	.04	.0444	.05
Pennsylvania:													
600 S.R.	.1829	.19½	.16½	.1206	.16	.07¼	.0911	.1500	.1236	.14	.09½	.127	.1202
Bright stock, 10 pour test	.2900	.30	.27½	.2407	.27½	.18	.2094	.2720	.2466	.28	.19	.2444	.2488
WAX—													
Oklahoma (Group 3):													
124-126 (crude scale)	.0365	.03¾	.03¼	.0253	.03¾	.01⅝	.0179	.0326	.017	.01⅞	.01⅝	.0169	.0170
New York (Bayonne, N. J.):													
120-122 (a.m.p.)	.0428	.046	.042	.0320	.043	.02⅜	.0266	.0373	.0263	.02⅞	.02⅜	.0281	.0245
EXPORT PRICES—													
Gasoline—Gulf Coast:													
U. S. Motor	.0455	.05¼	.04⅛	.0421	.05⅞	.03⅛	.0344	.0497	.0452	.05	.04	.0454	.045
64-66 375	.0498	.05¾	.04⅝	.0452	.06	.03¼	.0375	.0528	.0482	.05½	.04¼	.0488	.0470
Los Angeles, Calif.:													
U. S. Motor, 53-55 gr., no octane rating	.0410	.04½	.04	.0401	.04½	.03¾	.0375	.0427	.0381	.04¼	.03¾	.0387	.0375
U. S. Motor, 65 octane	.0460	.05	.04½	.0497	.05½	.04½	.0459	.0504	.0489	.....	.....	.05	.0498
Lubricants—New York (f.a.s. in bbls.):													
600 S.R. unfiltered	.2521	.26	.21½	.1827	.24	.13	.1540	.2114	.2111	.23	.19	.2035	.2185
Bright stock, No. 8 color	.0341	.36	.31	.2778	.33	.22½	.2438	.3119	.2971	.34	.24	.2935	.3008

Notwithstanding Adverse Conditions, Prices for Gasoline Top Those in First Half of 1933

By T. F. SMILEY

The United States motorist paid an average of 13.90 cents a gallon for his gasoline in the first six months of 1934, according to figures derived from the service station prices charged for regular-grade motor fuel in 50 representative cities throughout the country. In addition to this the motorist paid state and Federal taxes which ranged from 3 cents in a few eastern states to 8 cents in Tennessee, Florida, and Alabama. On July 1 the highest service-station price for gasoline in the country, including taxes, was 25 cents, paid in Spokane, Wash. This included 6 cents taxes. Close behind were Helena, Mont., and Montgomery, Ala., where the price in each case was 24½ cents. The lowest price, including taxes, was in Sioux City, Iowa, where the driver got his tank filled at 12.9 cents a gallon.

The 13.90-cent average for the first half of the present year is the highest recorded since 1930, when the 50-city average for January to June, inclusive, was 16.725 cents. It is exactly 2 cents higher than the 1933 half-year average of 11.90 cents. It compares with 13.57 cents in 1931 and 13.20 cents in 1932.

Each of the first six months of 1934 has seen a marked advance in the 50-city average gasoline price over the price for the corresponding month in 1933. Last year opened with gasoline prices drifting to the all-time low 50-city average of 10.82 cents, recorded in June. Notwithstanding demoralization in East Texas and unsatisfactory conditions in other particulars which have prevailed thus far this year the 1934 prices look well when they are placed alongside those of 1933. Reference to the table headed "Trend of Gasoline Service Station Prices" shows the January price for 1933 to have been 12.54 cents as compared with 14.32 cents for 1934. The February prices are 11.63 cents and 13.87 cents; March, 11.49 and 14.18; April, 11.58 and 13.57; May, 11.60 and 13.55; June 10.82 and 13.93.

Trend of Gasoline Service Station Prices

AVERAGE SERVICE STATION PRICES IN CENTS IN 50 REPRESENTATIVE CITIES, EXCLUSIVE OF TAXES

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
January 1	16.89	16.45	18.82	20.25	16.41	18.32	17.23	14.56	12.87	12.54	14.32
February 1	20.20	19.37	18.91	20.16	16.38	17.59	16.96	14.83	12.97	11.63	13.87
March 1	20.67	21.70	19.89	19.63	16.80	17.21	16.28	14.86	12.91	11.49	14.18
April 1	21.45	21.30	21.14	18.79	17.16	17.38	15.92	13.68	13.18	11.58	13.57
May 1	21.48	20.99	21.13	17.97	17.47	17.48	16.95	12.40	13.59	11.60	13.55
June 1	21.28	20.74	22.13	17.25	17.56	18.32	17.01	12.21	13.68	10.82	13.93
July 1	20.42	21.99	22.22	17.38	17.56	18.48	16.56	12.46	14.21	13.06	14.06
August 1	19.19	22.02	22.19	17.39	18.12	18.22	16.47	12.41	14.02	13.52	.....
September 1	18.45	19.45	22.09	17.13	18.40	18.32	16.26	12.21	13.65	14.00	.....
October 1	16.52	18.41	21.58	16.81	18.70	18.32	15.93	12.34	12.46	14.45	.....
November 1	16.29	18.20	20.58	16.72	18.05	17.84	15.41	12.32	13.04	14.30	.....
December 1	16.41	18.45	20.10	16.71	18.39	17.51	14.96	12.89	12.96	14.17	.....
Average	19.10	19.92	20.92	18.01	17.63	17.91	16.33	13.09	13.30	12.76	13.90

COMPARISON OF NET SERVICE STATION PRICES JANUARY 1, 1933 AND 1934, ACCORDING TO GEOGRAPHIC GROUPINGS

Atlantic and New England States

	Jan. 1	July 1
Portland, Me.	13.7	14.2
Manchester, N. H.	14.7	15.2
Burlington, Vt.	15.3	15.8
Hartford, Conn.	13.9	14.0
Springfield, Mass.	14.1	13.5
New York, N. Y.	13.5	13.5
Philadelphia, Pa.	12.0	13.5
Providence, R. I.	13.5	11.5
Newark, N. J.	13.5	13.8
Baltimore, Md.	13.3	13.6
Dover, Del.	13.5	14.0
Average	13.9	13.9

Central

	Jan. 1	July 1
Fargo, N. D.	15.6	15.9
Huron, S. D.	11.9	15.8
Wichita, Kans.	11.6	12.6
Omaha, Neb.	14.3	12.0
Tulsa, Okla.	13.0	13.0
Dallas, Tex.	14.0	14.0
Little Rock, Ark.	12.9	11.0
Kansas City, Mo.	13.7	11.0
Des Moines, Iowa	13.6	13.1
Duluth, Minn.	14.2	15.2
Milwaukee, Wis.	13.2	14.1
Chicago, Ill.	13.8	11.3
Detroit, Mich.	13.5	14.0
Indianapolis, Ind.	13.7	14.4
Cleveland, Ohio	12.5	14.5
Average	13.5	13.5

Southeastern

	Jan. 1	July 1
Norfolk, Va.	12.3	13.2
Charleston, W. Va.	14.2	14.5
Louisville, Ky.	13.5	14.0
Memphis, Tenn.	13.0	10.5
Atlanta, Ga.	14.0	15.0
Charlotte, N. C.	15.4	15.5
Charleston, S. C.	13.4	13.7
Jackson, Miss.	14.5	14.5
Birmingham, Ala.	15.5	15.5
New Orleans, La.	12.5	8.0
Jacksonville, Fla.	13.5	14.0
Average	13.8	13.5

Midwestern

	Jan. 1	July 1
Helena, Mont.	19.0	18.5
Boise, Idaho	19.0	18.0
Casper, Wyo.	16.5	15.0
Reno, Nev.	18.0	17.5
Salt Lake City, Utah	19.0	18.0
Denver, Colo.	16.0	14.0
Phoenix, Ariz.	15.5	16.0
Albuquerque, N. Mex.	15.0	14.5
Average	17.2	16.4

Western Coast

	Jan. 1	July 1
San Francisco, Calif.	15.5	15.5
Portland, Ore.	17.0	18.0
Seattle, Wash.	16.0	18.0
Average	16.2	17.2

Geographical Groups

Considering the nation's gasoline market by geographical groupings, it will be seen by reference to the tables that the January 1 and July 1 price averages were just the same in the Atlantic and New England States, the country's heaviest consuming area, and in the Central States, which include the great Chicago distributing district and the Mid-Continent. In the Southeastern States the July average was .3 cent below that of January. In the Midwestern and Western Coast regions, however, there were marked changes, in the Midwestern a falling off and in the Western Coast an advance.

The drop from 17.2 cents on January 1 to 16.4 cents on July 1 in the Midwestern group of states can be accounted for by a series of price reductions announced by the Continental Oil Co., whose marketing system spreads through that area. The addition of 1 cent in the Western Coast average, from 16.2 cents in January to 17.2 cents in July, finds its probable explanation in several conditions, including the beginning of a stabilization program and threatened shortage of gasoline as a result of the longshoremen's strike. Following scattered price reductions in the early part of the year and a demoralizing price war in California cities the Standard Oil Co. marked up service station prices from time to time till they rose from 15 cents (including taxes) to 19½ cents in San Francisco, from 13 cents to 17½ cents in Los Angeles and from 15 cents to 20 cents in Fresno.

East Texas a Disturbing Influence

Until near the end of the half year conditions in East Texas exerted a disturbing influence throughout most of the gasoline marketing areas of the country. Repeatedly East Texas demonstrated how a relatively small quantity of distress gasoline—and distress gasoline accumulated there with startling rapidity—could weaken the price structure throughout a wide territory. Save for periods when large orders for export or coastwise shipment cleaned up East Texas stocks there almost constantly was motor fuel in varying volumes seeking an outlet, with the refiner quite ready to shade prices in return for immediate shipping instructions.

Another depressing factor was uncertainty concerning the outcome of suits in the Federal Court attacking the constitutionality of the National Recovery Act and the validity of the national petroleum code. Producers and refiners of hot oil became so defiant in the absence of any vigorous enforcement measures that there was talk of a grand jury session in East Texas to probe violations of the Federal oil statutes. A small army of Federal investigators was sent into the district, but with the constitutionality of the law under which they were working a matter of dispute, they accomplished little in the way of remedying conditions.

Jobber buying was not active at any time throughout the whole half year. Because of uncertainties overhanging the market jobbers were cautious not to allow themselves to get caught with unwieldy stocks of gasoline in a declining market.

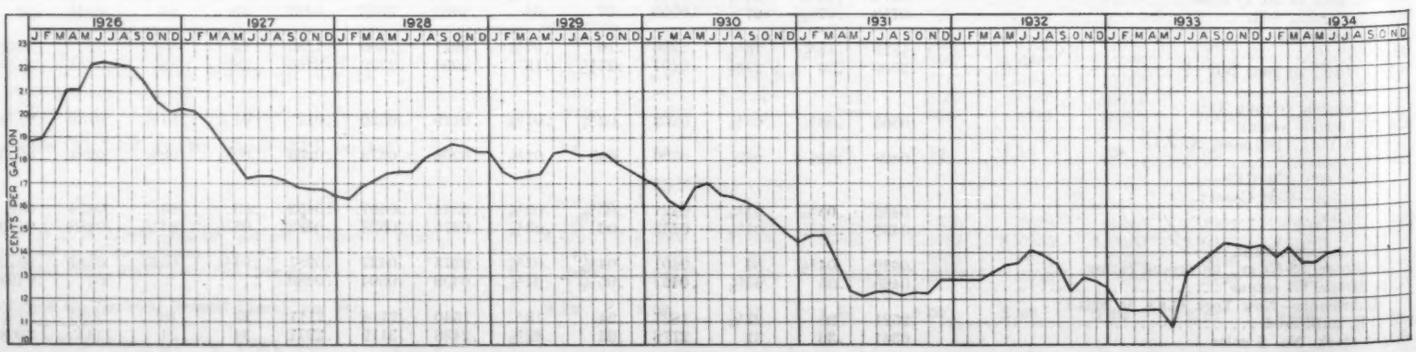
Better Tone Seen

A better tone was evident in May when it became known with certainty that the Planning and Coordination Committee was promoting a plan looking to the permanent removal of excessive stocks of gasoline in East Texas through their systematic purchase by the larger and long-established refiners.

After much missionary work under the direction of Howard Bennette, national co-ordinator of refinery operations, and A. V. Bourque, Tulsa, secretary of the Western Pennsylvania Refiners Association, enough East Texas refiners accepted the plan to cause its adoption. The contract under which the East Texas refiner sold his gasoline to majors required his agreement not to produce or process hot oil and to keep his production within the allowable assigned him. It also provided that payment should be made 75 per cent cash, with the remainder to be paid 12½ per cent in 45 days and 12½ per cent in 90 days if the conditions of the contract were performed faithfully.

As the half year closed the East Texas situation had undergone marked improvement. The market exhibited a firmer tone, a more cheerful sentiment pervaded the trade and there were predictions that the second half of 1934 would witness much better conditions in gasoline than the first six months had shown.

Trend of Gasoline Service Station Prices, Exclusive of Taxes, in 50 Representative Cities Throughout the United States



Gasoline Service Station Prices, With Changes, Exclusive of Taxes, During First Six Months of 1934 in 50 Representative Cities

	Price Jan. 1, 1934	Price changes in first six months — January			February			March			April			May			June			Price July 1, 1934	Fed. and state taxes Jan. 1	Fed. and state taxes July 1
Birmingham, Ala.	15.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15.5	8.0	8.0
Phoenix, Ariz.	15.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6/26 17.5	17.5	6.0	6.0
Little Rock, Ark.	12.9	1/4 12.4	1/8 12.1	....	....	....	....	3/8 11.0	....	....	....	....	....	5/2 12.0	5/9 13.1	5/31 13.6	6/9 12.5	6/14 12.5	6/17 8.5	8.5	7.0	7.5
San Francisco, Calif.	15.5	....	....	....	....	....	....	3/10 13.5	3/22 11.0	....	....	....	....	5/23 13.0	....	....	6/26 15.5	....	....	15.5	4.0	4.0
Denver, Colo.	16.0	....	....	....	....	....	....	3/14 14.0	3/31 11.0	....	....	....	....	....	....	....	....	....	....	11.0	6.0	6.0
Hartford, Conn.	13.9	1/9 12.9	....	....	2/9 13.4	....	....	....	....	....	....	....	....	5/19 14.4	....	....	6/15 14.0	....	....	14.0	3.0	3.0
Dover, Del.	13.5	....	....	....	....	....	....	....	....	....	4/4 13.0	....	....	5/9 13.5	5/22 14.0	....	....	....	....	14.0	4.0	4.0
Jacksonville, Fla.	13.5	....	....	....	....	....	....	....	....	....	4/16 14.0	....	....	....	....	....	....	....	....	14.0	8.0	8.0
Atlanta, Ga.	14.0	....	....	....	2/24 13.5	2/28 13.0	....	3/31 14.5	....	....	4/16 15.0	....	....	....	....	....	....	....	....	15.0	7.0	7.0
Boise, Idaho	19.0	....	....	....	....	....	....	3/18 13.5	....	....	4/13 18.0	....	....	....	....	....	....	....	....	18.0	6.0	6.0
Peoria, Ill.	13.7	....	....	....	2/23 14.7	....	....	3/14 12.7	....	....	....	....	....	....	....	....	....	6/19 9.9	....	9.9	4.0	4.0
Chicago, Ill.	13.3	....	....	....	2/23 14.2	....	....	3/29 12.8	....	....	4/17 11.8	....	....	....	....	....	6/4 14.3	6/5 13.3	6/7 12.3			
Indianapolis, Ind.	13.7	....	....	....	2/23 14.9	....	....	....	....	....	....	....	....	....	....	....	6/13 11.3	....	....	11.3	4.0	4.0
Des Moines, Iowa	13.6	....	....	....	2/23 14.6	....	....	....	....	....	4/19 12.5	4/21 10 9	4/25 9 9	5/22 14.6	....	....	6/16 14.4	....	....	14.4	5.0	5.0
Wichita, Kans.	11.6	....	....	....	2/23 12.6	....	....	....	....	....	....	....	....	....	....	....	6/19 13.1	....	....	13.1	4.0	4.0
Louisville, Ky.	13.5	....	....	....	....	....	....	....	....	....	4/16 14.0	....	....	....	....	....	....	....	....	12.6	4.0	4.0
New Orleans, La.	12.5	1/4 10.0	1/7 9.0	1/13 8 0	2/5 11.5	2/17 10 5	2/23 9 0	3/1 11.5	3/22 11.0	3/23 10.5	4/7 7.5	4/18 11.5	4/26 9.5	5/18 3.5	5/28 9.5	....	6/22 8.0	....	....	14.0	6.0	6.0
†Portland, Me.	13.7	1/17 10.5	....	....	2/26 8.0	....	....	3/24 9.5	3/25 9.0	....	....	....	....	....	....	....	....	....	..	8.0	7.0	*7.0
Baltimore, Md.	13.3	1/9 12.7	....	....	2/9 13.2	....	....	....	....	....	....	....	....	5/18 14.2	....	....	....	....	....	14.2	5.0	5.0
Springfield, Mass.	14.1	1/8 12.1	....	....	....	....	....	....	....	....	....	....	....	5/12 12.6	5/22 13.1	5/31 13.6	....	....	....	13.6	5 0	5.0
Detroit, Mich.	13.5	1/9 13.1	....	....	2/9 13.6	....	....	3/30 13.1	....	....	4/7 12.5	....	....	5/19 13.5	....	....	....	....	....	13.5	4 0	4.0
Duluth, Minn.	14.2	....	....	....	2/23 15.0	....	....	....	....	....	....	....	....	....	....	....	6/23 14.0	....	....	14.0	4.0	4.0
Jackson, Miss.	14.5	1/6 13.5	....	....	2/23 15.2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15.2	4.0	4.0
Kansas City, Mo.	12.7	....	....	....	....	....	....	....	....	....	4/16 15.0	4/26 14.5	....	....	....	....	....	....	....	14.5	7.0	7.0
Helena, Mont.	18.5	....	....	....	2/23 18.7	....	....	....	....	....	....	....	....	5/5 11.0	....	....	....	....	....	11.0	4.0	*4.0
Omaha, Neb.	14.3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	18.5	6.0	6.0
Reno, Nev.	18.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6/6 14.0	..	....	14.0	5.0	5 0
Newark, N. J.	13.5	1/8 12.3	1/10 11 5	....	2/13 12 3	....	....	....	....	....	4/5 15 0	4/13 16.5	....	5/23 17.5	....	....	....	....	....	17.5	5.0	5.0
Albuquerque, N. M.	15.0	....	....	....	....	....	....	3/30 14.5	....	....	....	....	....	5/12 12.8	5/22 13.3	5/31 13.8	....	....	....	13.8	4.0	4.0
New York, N. Y.	13.5	1/9 12.5	....	....	2/9 13.0	....	....	3/22 11.5	....	....	....	....	....	5/11 12.5	5/18 13.5	....	....	....	....	14.5	7.0	*7.0
Charlotte, N. C.	14.5	1/4 15.5	1/8 14.4	1/22 14.0	....	....	....	....	....	....	....	....	....	5/12 14.9	5/18 15.4	5/31 15.9	6/2 15.5	6/4 15.0	6/15 15.5	13.5	4.0	4.0
Fargo, N. D.	15.6	....	....	....	2/23 15.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15.5	7.0	7.0
Cleveland, Ohio	13.5	....	....	....	....	....	....	....	....	....	.. .	....	....	5/4 14.0	5/9 14.5	....	....	....	....	15.9	4.0	4.0
Tulsa, Okla.	13.0	1/4 14.0	1/9 13.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	14.5	5.0	5.0
Portland, Ore.	16.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13.0	5.0	5.0
Philadelphia, Pa.	12.0	....	....	....	2/21 1..5	....	....	....	....	....	....	....	....	5/9 13.0	5/22 13.5	....	....	....	....	16.0	5.0	6 0
Providence, R. I.	13.5	1/9 12.5	....	....	2/9 13.0	....	....	3/1 12.5	3/28 11.5	....	4/9 11.0	....	....	5/9 10.5	5/19 11 5	5/24 12.5	6/29 11.5	....	....	13 5	4.0	4.0
Charleston, S. C.	13.4	1/8 12.2	....	....	....	....	....	....	....	....	....	....	....	5/12 12.7	5/18 13.2	5/31 13.7	....	....	....	11.5	2.0	3 0
Huron, S. D.	14.9	....	....	....	2/23 15.8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13.7	7 0	7.0
Memphis, Tenn.	13.0	1/20 11 0	....	....	2/3 9.0	2/11 13.0	....	....	....	....	4/22 12 0	....	....	5/12 9.5	5/15 8.0	....	6/25 10.5	....	....	15.8	5.0	5.0
Dallas, Tex.	14.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	10.5	8.0	8.0
Salt Lake City, Utah	19.0	....	....	....	....	....	....	3/28 18.0	....	....	4/6 16 5	4/7 15.5	4/9 14.5	....	....	....	....	....	....	14.0	5.0	5.0
Burlington, Vt.	15.3	....	....	....	....	....	....	....	....	....	4/10 13.5	4/13 18.0	....	....	....	....	....	....	....	18.0	5.0	5.0
Norfolk, Va.	12.3	1/9 14.3	....	....	2/9 14.8	....	....	....	....	....	....	....	....	5/18 15.8	....	....	....	....	....	15.8	5.0	5.0
Washington, D. C.	12.0	1/8 12 2	1/11 11 5	1/13 11.0	....	....	....	3/16 9.0	3/18 8.5	....	4/16 12.2	....	....	5/12 12.7	5/18 13.2	5/31 13.7	....	....	....	13.7	6 0	6.0
		1/29 10.5	1/30 10.0	1/31 9.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....			
		1/4 13.5	1/8 12.3	1/9 11.0	2/1 10.0	2/2 9.5	2/5 9.0	....	....	....	4/6 11.5	....	....	5/15 12.8	5/18 13.2	5/31 13.8	....	....	....			
		1/10 10.0	1/15 12 6	1/22 12.0	2/20 12.3	....	....	....	....	....	....	....	....	....	....	....	....	....	....			
		1/25 11.5	1/27 11.0	1/29 10.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13.8	3.0	3.0
Charleston, W. Va.	14.2	1/8 13.0	....	....	....	....	....	....	....	....	....	....	....	5/12 13.5	5/18 14.0	5/31 14.5	....	....	....	14.5	5.0	5.0
Milwaukee, Wis.	13.2	....	....	....	2/23 14.1	....	....	3/23 12.1	....	....	4/14 11.5	4/17 10.8	....	5/29 14.1	....	....	....	....	....	14.1	5.0	5.0
Casper, Wyo.	16.5	....	....	....	....	....	....	3/28 15 0	....	....	....	....	....	....	....	....	....	....	....	15.0	5.0	5.0
Seattle, Wash.	16.0	....	....	....	....	....	....	3/16 14.0	3/20 12.0	....	4/7 10.0	4/23 12.5	....	5/9 16.0	....	....	....	....	....	16.0	6.0	6.0
Minneapolis, Minn.	13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13.9	4.0	4.0
Average price	14.32																			14.06		

*Includes 1-cent city or parish tax. †Substituted for Augusta, used in previous tables.

Prosperous Year for Oklahoma Producer Prompts Completion of 900 New Wells in Six Months

By JAMES McINTYRE

Nine hundred wells were completed in Oklahoma in the first six months of this year, or 378 more than in the same period last year, when 522 wells were completed. It was the busiest first-six-months period since the first half of 1930. The record shows that in the first half of 1931 714 wells were completed; same period in 1932, 445 wells; same period in 1933, 522 wells. The prevailing price of $1 per barrel for crude oil was the incentive for putting the tools to work, added to the fact that any wildcat completion that opened a pool was assured of a quick pipe line connecion, so keen was the competition for new connections prevailing throughout the six months period.

Thirteen oil and gas pools were opened in the half year and the 1933 pools were developed, some of them quickly and others with more deliberation because of the size of the wells. Pools like Lucien and Crescent, with their deep sands and the high cost of reaching the oil, were carefully drilled, one well to 40 acres. The South Burbank Pool in Osage County with its wells starting off at 1,000 to 4,000 bbls. per day from the prolific and long-lived Burbank sand, was curtailed as to drilling, but the Naval Reserve Field in the same county was developed more rapidly. It was a great half year in Osage County and 176 wells were completed as against 26 wells in the first half of last year. The lively development in the Naval Reserve Pool and the big wells completed in both that and the South Burbank fields, started a general drilling campaign and many an old lease in the county was the scene of cable tool operations, while new leases, some of them wildcat, were explored.

New Pools Named

The new pools opened included Meeker and Wilzetta and another in Township 17-6, not given a name as yet, in Lincoln County; an unnamed pool, and the Langston Pool in Logan County; the Newalla Pool in Oklahoma County (a very questionable discovery); the Binger Pool in Caddo County; a pool in Section 2-5-7, Seminole County; another in Section 18-10-6, Seminole County; a gas pool in Section 11-9-25w, in Beckham County; a gas pool in Section 17-10-14, McIntosh County, and another in Section 96-24 in Choctaw County, and the Polo oil pool in Noble County. Some of these discoveries were of a minor character.

The largest initial production of the new wildcats was the Texas Co. and others' No. 1 Voss, in Section 28-22-3w, which opened the Polo Pool in Wilcox sand. It started at 835 bbls. in 24 hours. This well had not been put on the completion list at the close of the half year. The Meeker discovery well in Section 25-12-3, started at 694 bbls. on the swab from Wilcox sand. The Wilzetta discovery well in Section 35-13-5, Lincoln County, started at 780 bbls. from Hunton lime.

Wildcat Failures

In the course of the six months there were 34 wildcat holes abandoned as dry or as salt water holes. They ranged in depth from 1,378 feet to 6,939 feet with an average of 4,088 feet in depth to the well. They were drilled in all quarters of the state including Stephens, Carter, Kiowa, Pontotoc, Beckham, Pottawatomie, Lincoln, Seminole, Noble, Payne, Coal, Garvin, Logan, Dewey, Creek, Garfield, Hughes and McClain Counties.

Increase in Production

Notwithstanding that all Oklahoma fields excepting stripper territory were subjected to some kind of curtailment on a prorated basis the state produced 91,123,782 bbls. of crude oil in the half year as against 80,157,672 bbls. in the same period last year and 77,113,805 bbls. in the first half of 1932, and 95,838,677 bbls. in the same part of 1931. Oklahoma City led with 32,419,893 bbls. as against 27,039,796 bbls. in the first half of last year, and the Seminole Field was next with 13,319,134 bbls. as against 15,778,368 bbls. in the same period last year. Osage County together with the Kay County side of the Burbank Field produced 6,723,969 bbls., a great gain over the first half of last year with its 4,824,259 bbls.

The St. Louis Pool produced 4,063,230 bbls. as against 3,360,972 bbls. in the first half of 1933.

Of the new pools South Burbank this half year produced 1,666,148 bbls.; Crescent, 517,804 bbls.; Lucien, 1,394,215 bbls.; all of them greatly limited in their allowable output per well.

Value of the Oil Crop

As the 91,123,782 bbls. of oil were marketed at an average of $1 per barrel, at least, it will be seen that the situation was much better in the first half of this year than it was in the same period last year when the price averaged about 42 cents per barrel for 36 gravity Oklahoma oil. On that basis the production in the first half of last year had a market value of $33,666,222 while the production in the first half of this year had a market value of $91,123,782.

World's Deepest Oil Well

The deepest oil well ever drilled found production in sand at 9,900-10,000 feet this year. It was the Denver Producing & Refining Co.'s No. 1 Adah Noe, NW SW SW Section 34-10-10w, in Caddo County, and first produced in the middle of April, when a 10-quart shot caused it to flow 140 bbls. in 10 minutes. The well did not flow regularly and it was decided to deepen it and at the close of the half year period it had reached a depth of 11,165 feet. The owners of the well were determined to drill it deep enough so that it would hold the world's record at the time held by General Petroleum Co., No. 1 Berry, in the South Aldridge area in California, which, at the close of the half year was 11,377 feet. It was the intention of the owners of Oklahoma's deepest well to drill it to 11,500 feet, and if no production was forthcoming, to plug back and produce from the Pennsylvanian formation topped at 9,900 feet, making the total depth just below 10,000 feet, which would still make the well the deepest producing well in the world. The owners believe they have a 250-bbl. producer in the Pennsylvanian horizon. The oil is of high gravity, between 44 and 44.9 degrees, and has much the appearance of crude produced in some of the Pennsylvania Grade fields of the East.

The Langston Pool

Early in March the Amerada Petroleum Corp. and Stanolind Oil & Gas Co. opened a Wilcox sand pool near Langston, in Logan County, with their No. 1 Foutts, NW NE Section 14-17-1w. First Wilcox sand was found at 5,098 feet and at 4 feet in, the well made 650 bbls. naturally in 24 hours. It was drilled to second Wilcox sand at 5,240-46 feet and the hole filled with salt water. It was then plugged back to the first Wilcox and was shot with 60 quarts at 5,098-5,102 feet and produced 60 bbls. the ensuing 24 hours. It was shot again with 60 quarts and responded with a 225-bbl. production. The well was completed late in April.

Wilzetta Pool

Early in February the Amerada Petro-

Oklahoma

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
WASHINGTON COUNTY:							
Daily average	3,649	3,504	3,709	3,535	3,617	3,604	
Month	113,119	98,112	114,979	106,050	112,127	108,120	652,507
NOWATA COUNTY:							
Daily average	5,663	5,781	6,065	5,998	6,087	6,112	
Month	175,553	161,868	188,015	179,940	188,697	183,360	1,077,433
ROGERS COUNTY:							
Daily average	1,769	1,666	1,809	1,847	1,832	1,834	
Month	54,839	46,648	56,079	55,410	56,792	55,020	324,788
OSAGE AND EASTERN KAY COUNTIES:							
Burbank—							
Daily average	9,265	9,247	9,187	9,290	9,140	9,106	
Month	287,215	258,916	284,797	278,700	283,340	273,180	1,666,148
South Burbank—							
Daily average	650	1,527	6,117	4,032	4,426	5,270	
Month	20,150	42,756	189,627	120,960	137,206	161,100	671,799
Other Osage Pools—							
Daily average	21,351	23,888	25,004	25,013	24,613	25,042	
Month	677,381	668,864	775,124	750,390	763,003	751,260	4,386,022
TULSA COUNTY:							
Daily average	4,052	4,109	4,099	4,106	4,062	4,007	
Month	125,612	115,052	127,069	123,180	125,922	120,210	737,045
WAGONER COUNTY—							
Daily average	1,176	1,182	1,209	1,205	1,189	1,173	
Month	36,456	33,096	37,479	36,150	36,859	35,190	215,230
OKMULGEE COUNTY:							
Daily average	5,628	5,710	5,829	5,968	5,987	5,930	
Month	174,468	159,880	180,699	179,040	185,597	177,900	1,057,584
MUSKOGEE COUNTY—							
Daily average	966	974	872	956	951	952	
Month	29,946	27,272	27,063	28,680	29,481	28,560	171,002
OKFUSKEE COUNTY:							
Daily average	3,448	3,392	3,549	3,167	3,750	3,575	
Month	106,888	94,976	110,019	95,010	116,250	107,250	630,402
POTTAWATOMIE, SEMINOLE, HUGHES AND PONTOTOC COUNTIES:							
Seminole City—							
Daily average	10,354	10,315	11,055	10,650	10,559	11,825	
Month	320,974	288,820	342,705	319,500	327,329	354,750	1,954,078
East Seminole—							
Daily average	1,166	1,059	975	1,066	969	1,088	
Month	36,146	29,652	30,225	31,980	30,039	32,640	190,682
Bowlegs—							
Daily average	9,996	10,264	10,224	9,952	9,703	11,212	
Month	307,086	287,392	316,944	298,560	300,793	336,360	1,847,135
Earlsboro and South Earlsboro—							
Daily average	10,264	10,427	10,691	11,057	10,467	11,782	
Month	318,184	291,956	331,421	331,710	324,477	353,460	1,951,208
East Earlsboro—							
Daily average	12,350	12,207	11,622	11,668	11,302	11,450	
Month	382,850	341,796	360,282	350,040	350,362	343,500	2,128,830
Little River and East Little River—							
Daily average	15,152	15,047	15,704	14,883	14,434	15,688	
Month	469,712	421,316	486,824	446,490	447,454	470,640	2,742,436
Searight—							
Daily average	2,193	2,335	2,393	2,551	2,759	2,988	
Month	67,983	65,380	74,188	76,530	85,529	89,640	459,245
Mission—							
Daily average	4,274	4,202	4,128	4,041	3,777	3,788	
Month	132,494	117,656	127,968	121,230	117,087	113,640	730,075
Carr City—							
Daily average	5,702	5,622	6,054	5,685	5,856	6,862	
Month	176,762	157,416	187,674	170,550	181,536	205,860	1,079,798
Maud—							
Daily average	1,395	1,306	1,353	1,266	1,271	1,217	
Month	43,245	36,568	41,943	37,980	39,401	36,510	235,647
Total Seminole—							
Daily average	72,756	72,784	74,199	72,819	71,097	77,906	
Month	2,255,436	2,037,952	2,300,169	2,184,570	2,204,007	2,337,000	13,319,134

(Continued on Next Page)

leum Corp. and Stanolind Oil & Gas Co. brought in a well on the Martinek farm, NW cor. SE Section 35-13-5, in Lincoln County. It found Viola lime at 4,420 feet and at 4,425 feet flowed 780 bbls. of oil and 365 bbls. of water in 21 hours. The well was deepened to 4,288 feet and in the middle of March it swabbed 580 bbls. of oil and 188 bbls. of water in 24 hours. It was completed late in March and opened what became known as the Wilzetta Pool, called after the little town of that name.

Meeker Discovery

A couple of weeks after the Amerada-Stanolind No. 1 Martinek came in, or in the middle of February, a unit operation in which the Twin State Oil Co., Sinclair Prairie Oil Co. and Huckleberry's No. 1 Boland, SW cor. Section 25-12-3, Lincoln County, near the town of Meeker, hit the Wilcox sand at 5,455 feet and when 6 feet in the sand the well flowed 150 bbls. of oil in 1½ hours. It was swabbed and produced 293 bbls. in 13½ hours. Later it swabbed 694 bbls. in 24 hours and was completed.

The Newalla Test

Springrose Drilling Co., Watchorn Oil & Gas Co. and others' No. 1 Edwards, C SE SE Section 19-11-1e, near Newalla, Oklahoma County, created a mild sensation late in February when it filled 4,000 feet with oil at a total depth of 6,079 feet, presumably in the top of the Hunton lime. It caused a great scramble among the lease and royalty buyers and good prices were paid for both, as the well had been doped out as being on a big structure and was believed to have opened an important pool. Some of the geologists in the state were free to say that they did not think much of it, but this was taken as "sour grapes" by the eager horde of investors anxious to get in while the price was relatively low. The owners acidized the discovery well without drilling it deeper but it flowed only 82 bbls. in 24 hours, by heads, and the oil was cut about 30 per cent. The owners tried to make a well out of this test but gave it up and drilled deeper, and at the close of the half year it had reached a depth of 6,540 feet, with the tools lost in the hole. At the time it was doubtful if the well would ever be put on production even though it had shown oil in the Hunton formation. However, it may lead to more drilling on the structure as too much money was invested in the area to sacrifice it without a more complete exploration.

The Polo Pool

The Texas Co. opened the Polo Pool in Noble County with its No. 1 Voss, C NE SE Section 28-22-2w, west of Perry, in June. It had Wilcox sand at 4,809-56 feet and flowed 865 bbls. the first 33 hours. In the same county and about the same time the Continental Oil Co. and others in their test No. 1 Bennett, SE cor. NW Section 19-20-1w, found Wilcox sand at 4,506 feet and at a total depth of 4,515 feet the well filled 200 feet with water and 2,000 feet with oil. The Texas Co.'s well was drilling at 4,895 feet at the close of the half year but the Continental's well had not been drilled deeper when the half year closed.

New Seminole District Pools

Stanolind Oil & Gas Co.'s No. 1 Edwards, C N half S half SE Section 2-5-7, Seminole County, had Gilcrease sand at 2,643-75 feet, the well showing 20 bbls. a day of oil and an equal quantity of water. It was completed in April.

Carter Oil Co. and others opened a new productive spot in Seminole County with No. 1 Jarvis, a community test, C E half NE SW Section 18-10-6, in the last half of April. It had Wilcox sand at 4,593 feet and at 3 feet in swabbed 25 bbls. per hour. Early in May it was completed after it had produced 1,000 bbls. in a 24-hour test. It had not been drilled any deeper.

Gas Field in Beckham

In the closing days of April the West Oak Gas Co., drilling a wildcat in Beckham County, No. 1 Powell, NW cor. SW Section 11-9-25w, set 8-inch pipe at 3,345 feet, the well producing 4,000,000 feet of gas from the top of the pay. It was drilled to 3,449 feet and was completed as a 20,000,000-foot gasser in the same month.

Another pool was opened in Logan County in the first half of the year by Anderson & Kerr in their No. 1-A Hull, 455 feet S and 330 feet W of NE cor. Section 11-18-4w. It found Layton sand at 4,775-4,812 feet and produced 227 bbls. naturally the first 24 hours. It was completed early in May.

In Osage County Empire Oil & Refining Co. tried to make a well out of its wildcat in the C SE SE NE Section 3-25-3. It found a sand at 2,052-63 feet which showed oil. The well was put on the pump late in April. It produced 105 bbls. of oil in 14 hours. Later it showed a lot of water and drilling was continued and at the close of June was drilling at 3,165 feet. It showed production from Cleveland sand at 2,881-2,934 feet, flowing by heads.

More New Gas

McGirl & Sherry got a small gas well in their wildcat in McIntosh County, No. 1 Unallotted, SW cor. Section 17-10-14. It produced 600,000 feet of gas at 1,602-13 feet and was completed.

In Choctaw County, the Choctaw Oil & Gas Co. opened a new gas producing spot in No. 1 Metcalf, SE SE Section 9-6-24. The well started at 500,000 feet of gas at 1,465-1,727 feet.

In northeastern Lincoln County, not far removed from the famous old Cushing pool, over the line in Creek County, Lambert, Kemp and the Blackwell Oil & Gas Co. opened a pool late in May, in No. 1 Cook, SW NW NE Section 23-17-6. Misener sand was topped at 3,070 feet; there was gas at 3,080 feet and an increase of gas at 3,084 feet estimated at 5,000,000 feet, immediately followed by oil at 3,084 feet. The well tested 10 bbls. per hour on the swab. It was completed and several other wells were started in the area.

Revives Fitts Pool

The Fitts Pool, in southern Pontotoc County, opened in August last year by E. H. Moore and others in their No. 1 Wirick, SE cor. SW Section 29-2-7 with a good well producing from a sand at 2,640 feet, which discovery was followed by a 1,700-foot sand discovery, was at the close of the half year one of the big disappointments of the recent years. The rush to the area last summer following

Oklahoma (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
Allen—							
Daily average	8,673	8,894	9,114	8,731	8,379	8,406	
Month	268,863	249,032	282,534	261,930	259,749	252,180	1,574,288
Asher—							
Daily average	404	432	455	533	474	490	
Month	12,524	12,096	14,105	15,990	14,694	14,700	84,109
West Asher—							
Daily average	1,717	1,637	1,629	1,542	1,477	1,462	
Month	53,227	45,836	50,499	46,260	45,787	43,860	285,469
St. Louis-Pearson—							
Daily average	21,932	22,317	22,528	21,466	21,714	24,766	
Month	679,892	624,876	698,368	643,980	673,134	742,980	4,063,230
Sasakwa—							
Daily average	1,149	1,058	1,047	980	872	880	
Month	35,619	29,624	32,457	29,400	27,032	26,400	180,532
Fitts—							
Daily average	140	222	374	259	473	467	
Month	4,340	6,216	11,594	7,770	14,663	14,010	58,593
Sasakwa Townsite—							
Daily average	885	920	1,138	1,227	1,678	1,597	
Month	27,435	25,760	35,278	36,810	52,018	47,910	2,252,211
Beebe—							
Daily average	3,583	4,232	4,125	4,764	4,669	4,611	
Month	111,073	118,496	127,875	142,620	144,739	138,330	783,133
Wewoka—							
Daily average	4,537	4,909	4,462	4,459	4,508	4,409	
Month	140,647	137,452	138,322	133,770	139,748	132,270	822,209
Cromwell—							
Daily average	4,772	4,722	4,776	4,674	4,676	4,681	
Month	147,932	132,216	148,056	140,220	144,956	140,430	853,810
Papoose Gilcrease—							
Daily average	1,396	1,387	1,404	1,361	1,369	1,334	
Month	43,276	38,836	43,524	40,830	42,439	40,020	248,925
Holdenville—							
Daily average	3,484	3,874	3,739	3,665	3,226	3,190	
Month	108,004	108,472	115,909	109,950	100,006	95,700	638,041
Fish—							
Daily average	2,788	3,004	2,785	2,798	2,738	3,812	
Month	86,428	84,112	86,335	83,940	84,878	114,360	540,053
Konawa—							
Daily average	2,502	2,559	2,486	2,403	2,241	2,147	
Month	77,562	71,652	77,066	72,090	69,471	64,410	432,251
Gray—							
Daily average	2,809	2,580	2,806	2,099	2,372	2,214	
Month	87,079	72,240	86,986	65,070	73,532	66,420	451,327
Keokuk—							
Daily average	853	692	815	1,071	1,212	1,117	
Month	26,443	19,376	25,265	32,130	37,572	33,510	174,296
Miscellaneous—							
Daily average	1,606	1,599	1,647	1,552	1,460	1,515	
Month	49,786	44,772	51,057	46,560	45,260	45,450	282,885
CREEK AND PAYNE COUNTIES:							
Glen Pool, Sapulpa and Kiefer—							
Daily average	5,410	5,572	5,584	5,562	5,492	5,463	
Month	167,710	156,016	173,104	166,860	170,262	163,890	997,832
Cushing-Shamrock—							
Daily average	13,968	13,678	13,806	13,711	13,758	13,710	
Month	433,008	382,984	427,986	411,330	426,498	411,300	2,493,106
Bristow and Slick—							
Daily average	11,014	10,459	10,238	10,662	10,266	10,247	
Month	341,434	292,852	317,378	319,860	318,246	307,410	1,897,180
Yale, Maramec and Jennings—							
Daily average	5,138	4,997	5,122	5,172	5,088	5,089	
Month	159,278	139,916	158,782	155,160	157,728	152,670	923,534
Masham-Ralston—							
Daily average	81	78	81	84	83	83	
Month	2,511	2,184	2,511	2,520	2,573	2,490	14,789
Ripley—							
Daily average	540	558	514	610	581	577	
Month	16,740	15,624	15,934	18,300	18,011	17,310	101,919
Watchorn—							
Daily average	439	424	427	444	439	440	
Month	13,609	11,872	13,237	13,320	13,609	13,200	78,847
Cleveland-Keystone—							
Daily average	9,102	8,723	8,319	8,162	8,323	8,196	
Month	282,162	244,244	257,889	244,860	258,013	245,880	1,533,048
OKLAHOMA COUNTY:							
Oklahoma City—							
Daily average	173,119	157,846	163,859	184,836	192,467	201,411	
Month	5,366,689	4,419,688	5,079,629	5,545,080	5,966,477	6,042,330	32,419,893
Newalla—							
Daily average	.....	5	47	55	.....	.....	
Month	.....	140	1,457	1,650	.....	.....	3,247
LINCOLN COUNTY:							
Davenport-Kendrick—							
Daily average	759	778	763	771	759	757	
Month	23,529	21,784	23,652	23,130	23,529	22,710	138,335
Chandler—							
Daily average	4,056	8,061	6,939	5,996	6,726	6,544	
Month	125,736	225,708	215,109	179,880	208,506	196,320	1,151,259
Stroud—							
Daily average	648	572	664	429	516	510	
Month	20,088	16,016	20,584	12,870	15,996	15,300	100,854
Meeker—							
Daily average	.....	.....	28	72	38	40	
Month	.....	.....	868	2,160	1,178	1,200	5,406
Wilzetta—							
Daily average	.....	.....	309	249	302	293	
Month	.....	.....	9,579	7,470	9,362	8,790	35,201
Lin-Creek (County Line)—							
Daily average	389	363	263	242	338	316	
Month	12,059	10,164	8,153	7,260	10,168	9,480	57,284
KAY, GRANT AND NOBLE COUNTIES:							
Blackwell—							
Daily average	1,507	1,489	1,545	1,424	1,477	1,446	
Month	46,717	41,692	47,895	42,720	45,787	43,380	268,191

(Continued on Next Page)

the Moore discovery was unusual. Oil men of various characterizations hurried to the spot from Texas, Kansas and Oklahoma to get in on the lease play, and numerous wells were started not only in Township 2-7, but in Townships 2-6 in Pontotoc County and Township 2-8 in Coal County. The Coal County tests did not open any producing territory, and the tests in Township 2-7 developed freakish conditions. Hardly a sand that was penetrated but showed indications of oil or gas or both. Some of the gas sands produced at the rate of 15,000,000 to 50,000,000 feet per day but the pool did not produce much oil at any time. Failing to get commercial oil production in the 2,600-foot horizon, wells were deepened and after the close of the half year, or on July 12, the well of Delaney and others, No. 2 Craddock, NE cor. Section 28-2-6, found a broken sand at 4,410-30 feet and a solid sand at 4,430-45 feet, which yielded 280 bbls. per day, flowing naturally. The well was bottomed in lime at 4,448 feet when this was written and was not completed. This undoubtedly will revive interest in the field. It is a settled fact that no well in the Fitts Pool can be called a test until it has exhausted all the resources of the many sands that will be encountered in the process of drilling.

OKLAHOMA

Summary of Completed Wells, First Six Months of 1934

County—	Comp	Prodn.	Dry	Gas
Beckham	4	....	4	0
Carter	36	3,407	8	1
Choctaw	1	....	0	1
Coal	1	....	1	0
Cotton	1	....	1	0
Creek	134	5,734	31	6
Dewey	1	....	1	0
Garfield	3	20	1	0
Garvin	3	....	3	0
Grady	2	60	0	1
Grant	1	....	1	0
Hughes	28	1,610	6	3
Jefferson	8	125	4	0
Kay	2	....	1	1
Lincoln	42	44,109	10	0
Logan	15	47,633	1	1
Marshall	28	509	4	0
McClain	1	....	1	0
McIntosh	1	....	0	1
Murray	1	....	0	0
Muskogee	12	35	10	0
Noble	22	53,551	2	0
Oklahoma	37	51,378	0	2
Okmulgee	69	2,017	27	7
Okfuskee	26	997	5	8
Osage	176	89,486	37	2
Pawnee	6	100	3	0
Payne	3	712	1	0
Pittsburg	7	....	1	6
Pottawatomie	57	26,106	9	0
Pontotoc	42	6,496	10	6
Pushmataha	1	....	1	0
Seminole	49	16,374	12	0
Stephens	31	1,519	10	2
Tulsa	30	720	15	5
Wagoner	24	542	9	5
Total 6 months 1934	900	353,240	231	58
Same period 1933	522	132,342	192	30
Difference	378	220,898	39	28

Completions by Months

Month—	Comp.	Prodn.	Dry	Gas
January	157	54,028	40	11
February	115	19,725	27	8
March	180	79,831	45	11
April	144	72,800	34	12
May	149	71,097	37	11
June	155	55,759	48	5
Total 6 months 1934	900	353,240	231	58
Total 6 months 1933	522	132,342	192	30
First half 1932	445	320,573	159	57
First half 1931	714	1,431,798	247	117
First half 1930	1,898	2,470,015	534	191
First half 1929	1,740	488,960	618	149
First half 1928	1,821	328,155	657	292
First half 1927	2,365	963,276	727	247
First half 1926	2,545	380,359	789	270
First half 1925	2,436	458,049	721	228

The West Chandler Pool, in Township 14-3 in Lincoln County, opened last year, was developed in the first half of this year to the point where drilling had slowed down to almost nothing. Thousand-barrel wells were common in this pool, but it was of limited area and was punctured by numerous dry holes as operators sought to extend the field. The Olive Pool, a Layton sand development in Township 18-8 and the north end of Township 17-8, Creek County, was pretty well drilled up in the course of the six months. Creek County was given a very busy drilling play in the half year, 134 completions having been recorded, of which 31 were dry and 6 gas wells. Last year in the same period only 92 wells were completed of which 36 were dry and 14 were gassers.

The South Burbank Pool, in Township 25-6, Osage County, developed a flock of wells in the first half of this year from Burbank sand and would have completed considerably more had it not been that Secretary of the Interior Ickes clamped down, and in co-operation with the producers themselves and the Oklahoma Corporation Commission called a halt on inside drilling and discouraged the starting of wells. This field was formerly variously known as the Little Chief and the Fairfax Pool, but when the north end of the area found the big production in a well drilled by Mead Drilling Co. and others it was dubbed the South Burbank Pool. It appears to be cut off from the main body of the big Burbank field, but is producing from the same sand.

Jersey Blocks Diversion; Washington Scheme Fails

Attempts made in New Jersey to divert $10,000,000 of highway funds to other purposes, and in the State of Washington to put the state government into the gasoline business, have failed, according to reports reaching the American Petroleum Industries Committee.

It was proposed in New Jersey that relief work be financed by $10,000,000 taken from a $100,000,000 bond issue, financed by gasoline taxes, floated a few years ago, and which already has been depleted to the extent of $21,000,000 for the same purpose. In fact, the ink was scarcely dry upon the bond certificates before some $17,000,000 was diverted to state buildings, institutions, and other purposes, highway work taking second place almost from the start.

The Washington proposal, designed to provide for a referendum on the subject, definitely would have set up the state government in the gasoline business, even to establishing transportation, storage and marketing facilities. It was promoted in an effort to cut what were characterized as "high gasoline prices."

Oklahoma (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
Oistot—							
Daily average	666	653	656	630	647	639	
Month	20,646	18,284	20,336	18,900	20,057	19,170	117,393
Deer Creek—							
Daily average	441	439	424	428	417	416	
Month	13,671	12,292	13,144	12,840	12,927	12,480	77,354
Ponca City—							
Daily average	338	336	334	335	306	311	
Month	10,478	9,408	10,354	10,050	9,486	9,330	59,106
Mervine—							
Daily average	156	114	162	143	124	128	
Month	4,836	3,192	5,022	4,290	3,844	3,840	25,024
Braman—							
Daily average	1,425	1,491	1,466	1,462	1,427	1,420	
Month	44,176	41,748	45,446	43,860	44,237	42,600	262,066
Hubbard—							
Daily average	980	876	946	894	955	927	
Month	30,380	24,528	29,326	26,820	29,605	27,810	168,469
Thomas—							
Daily average	342	307	315	284	293	291	
Month	10,602	8,596	9,765	8,520	9,083	8,730	55,296
Tonkawa—							
Daily average	3,943	3,949	3,964	3,996	3,894	3,817	
Month	122,233	110,572	122,884	119,880	120,714	114,510	710,793
Billings—							
Daily average	122	102	112	98	116	110	
Month	3,782	2,856	3,472	2,940	3,596	3,300	19,946
Perry—							
Daily average	534	514	499	488	485	510	
Month	16,554	14,392	15,469	14,640	15,035	15,300	91,390
Lucien—							
Daily average	6,492	5,234	5,358	10,560	9,893	8,561	
Month	201,252	146,552	166,098	316,800	306,683	256,830	1,394,215
Langston—							
Daily average	.....	.....	.....	291	250	246	
Month	.....	.....	.....	8,730	7,750	7,380	23,860
GARFIELD COUNTY—							
Garber—							
Daily average	2,530	2,736	2,741	2,534	2,413	2,424	
Month	78,430	76,608	84,971	76,020	74,958	72,720	463,707
LOGAN COUNTY:							
Crescent—							
Daily average	581	679	1,304	4,658	4,427	5,446	
Month	18,011	19,012	40,424	139,740	137,237	163,380	517,804
Marshall-Lovell—							
Daily average	1,083	1,136	1,015	1,456	1,345	1,360	
Month	33,573	31,808	31,465	43,680	41,695	40,800	223,021
CARTER COUNTY:							
Healdton—							
Daily average	9,196	9,270	9,246	9,285	9,179	9,182	
Month	285,076	259,560	286,626	278,550	284,549	275,460	1,669,821
Hewitt—							
Daily average	4,989	5,184	4,956	4,994	4,971	4,966	
Month	154,659	145,152	153,636	149,820	154,101	148,980	906,348
Sholem-Alechem—							
Daily average	4,534	4,480	4,572	4,512	4,477	4,469	
Month	140,554	125,440	141,732	135,360	138,787	134,070	815,943
Tatums—							
Daily average	8,581	8,081	7,401	7,014	7,030	7,016	
Month	266,011	226,268	229,431	210,420	217,930	210,480	1,360,540
Graham-Fox—							
Daily average	3,573	3,613	3,533	3,587	3,780	3,654	
Month	110,763	101,164	109,523	107,610	117,180	109,620	655,860
Brock—							
Daily average	513	508	506	502	535	507	
Month	15,872	14,224	15,686	15,060	16,585	15,210	92,637
STEPHENS-COTTON COUNTIES:							
Duncan-Walters and Comanche—							
Daily average	4,546	4,476	4,568	4,604	4,758	4,696	
Month	140,926	125,328	141,608	138,120	147,498	140,880	834,360
Loco Milroy—							
Daily average	1,131	1,137	1,162	1,141	1,151	1,147	
Month	35,061	31,836	36,022	34,230	35,712	34,410	207,271
Kilgore—							
Daily average	132	137	131	133	141	136	
Month	4,092	3,836	4,061	3,990	4,371	4,080	24,430
JEFFERSON COUNTY:							
Seay (Hambro)—							
Daily average	2,118	2,310	2,123	2,257	2,135	2,140	
Month	65,658	64,680	65,813	67,710	66,185	64,200	394,246
GARVIN COUNTY:							
Robberson—							
Daily average	1,374	1,377	1,359	1,171	1,322	1,296	
Month	42,594	38,556	42,129	35,130	40,982	38,880	238,271
GRADY COUNTY:							
Knox—							
Daily average	1,737	1,742	1,727	1,690	1,705	1,688	
Month	53,847	48,776	53,537	50,700	52,855	50,640	310,355
MARSHALL COUNTY:							
Madill—							
Daily average	197	201	178	166	168	162	
Month	6,107	5,628	5,518	4,980	5,208	4,860	32,301
Kingston—							
Daily average	171	211	239	221	219	274	
Month	5,301	5,908	7,409	6,630	6,789	8,220	40,257
CADDO COUNTY—							
Cement—							
Daily average	1,966	1,972	1,860	1,883	2,016	2,010	
Month	60,946	55,216	57,660	56,490	62,496	60,300	353,108
TILLMAN COUNTY:							
Daily average	923	947	897	883	563	811	
Month	28,613	26,516	27,807	26,490	17,453	24,330	151,209
Daily average	485,536	476,617	489,241	512,361	518,030	537,585	503,446
Total first six months 1934	15,053,166	13,345,276	16,166,471	15,370,830	16,060,480	16,127,552	91,123,782
Total first six months 1933	12,550,784	12,570,992	15,455,236	11,720,010	13,521,580	14,339,070	80,157,672
Total first six months 1932	13,664,149	11,806,190	12,998,796	12,718,020	13,169,420	12,757,230	77,113,805
Total first six months 1931	14,850,952	13,531,980	16,627,687	16,816,990	17,332,867	16,678,200	95,838,677
Total first six months 1930	20,802,984	17,977,624	19,115,406	19,541,310	20,587,503	19,754,700	117,779,527
Total first six months 1929	22,575,874	20,464,164	20,338,262	20,235,390	21,345,453	20,561,112	126,020,255
Total first six months 1928	20,978,320	19,394,426	20,162,524	19,096,920	19,443,355	18,482,981	117,458,576
Total first six months 1927	19,085,426	19,752,348	22,480,921	22,208,130	23,258,463	22,830,930	129,566,618
Total first six months 1926	13,674,813	12,392,016	14,312,886	14,468,190	14,507,008	14,072,510	83,428,423

Exports of Crude Oil and Refinery Products Gain With an Increase in Receipts From California

By C. O. WILLSON

The first half year of 1934 saw little change in imports of crude oil and refinery products, a substantial gain in exports and greater shipments from California to the East Coast when compared with the same period in 1933. These developments reflect developments brought about by changes in marketing conditions some of which are temporary in character which means that there is no certainty that these relative conditions will continue over the balance of the year.

The government reports on imports and exports are not complete due to the fact that the June data will not be released until early in August. The data for the first five months which are summarized in the accompanying Table 1 show that imports of crude were practically the same for 1934 and 1933. Imports of crude oil which averaged 297,800 bbls. daily in 1929 have declined steadily since and averaged only 93,000 bbls. daily the first five months of this year. The decline has been especially marked since June, 1932, when the import tax of 21 cents per barrel became effective. Since that time imports of crude oil have been largely confined to two or three companies which have large production in South American countries. Some of the crude is refined at plants in the United States and the products disposed of in foreign commerce under a provision of the revenue act which permits this type of operation without payment of import tax.

Imports of refinery products in domestic markets are of no importance. Imports of gasoline for the first five months totaled 1,000 bbls. in contrast to the situation in 1930 when they averaged 46,000 bbls. daily and 37,300 bbls. in 1931. The American market is now independent of these foreign supplies and the same situation obtains in the case of kerosene and lubricating oils in which no imports were reported the first half of this year.

In the gas oil and fuel oil ends, only 1,137,000 bbls. were imported for domestic consumption although larger quantities passed through bonded warehouses for consumption by the marine trade under provisions of the law which exempt the products from the payment of the import taxes. The importation of wax in contrast to the situation prevailing in other refinery products practically doubled the first five months of this year. Some Russian and South American wax has been brought into this country competing with the domestic supplies. The relative high prices prevailing for domestic wax the first half year has tended to stimulate this business.

TABLE 1—IMPORTS AND EXPORTS OF CRUDE OIL AND REFINERY, FIRST FIVE MONTHS OF 1934 AND 1933
(Data in barrels)

First 5 months—	Crude oil	Refinery products	Gasoline	Kerosene	Gas oil and fuel oil	Lubricants	Wax (lbs.)
Imports							
1934	14,098,000	5,774,000	1,000	.....	*1,137,000	.....	*20,681,000
1933	14,119,000	6,303,000	5,000	.....	*2,763,000	.....	*9,038,000
Exports							
1934	15,047,000	31,065,000	11,135,000	3,833,000	11,708,000	3,394,000	85,628,000
1933	11,577,000	28,445,000	12,233,000	3,501,000	8,274,000	3,318,000	107,401,000

*For domestic consumption. Note—Derived from Bureau of Mines reports with June figures not available.

Table 2 shows the imports divided as to destination in this country based on A.P.I. reports which cover the entire six months. This table does not show any important changes for the first half year when compared with the same period in 1933. Among the Atlantic Seaboard cities imports at Boston showed a substantial decrease the first half of 1934 which was offset by the increases at Boston. New York and Philadelphia imports were practically unchanged from last year. The crude oil imports according to this report account for two-thirds of the total and fuel oil the remaining one-third. This report does not include petroleum wax.

Exports Gain

The data on export shipments reflect a change in the recent trends. Total exports of crude oil and refinery products have shown steady yearly declines since 1929 but as previously indicated the totals for the first six months of this year are greater than the same period in 1933, the gains amounting to 18 per cent. The greater part of this gain was due to the increase in exports of crude oil which averaged 100,000 bbls. daily the first six months of this year, compared to 70,000 bbls. the first half of 1933. Last year crude oil exports for the entire year averaged 100,600 bbls. daily due to the large increases the last half of the year.

In June and July of last year, crude exports from this country averaged 145,000 bbls. daily and 125,000 bbls. daily in October. The bulk of this crude oil goes to Canada, Great Britain and France. The latter country has been a large buyer this year and last due to the steady increase in refining capacity of several new plants. The large shipments of last year were in part accounted for by the low prices which prevailed at the Gulf Coast some of which were illegally produced oil. It was thought that total shipments would drop off this year with the higher prices but the 100,000-bbl. average for the first six months, which is greater than any previous first half year, shows that owners of foreign operated refineries, still require oil produced in the United States. The quality of the oil is a factor in the steady demand. It has been pointed out that with the completion of the Iraq pipe line this fall this demand probably will decline in the case of French refineries.

Refinery Products

Among the refinery products (Table 1) there were gains in exports for all products with the exception of petroleum wax and gasoline. The demand for the latter has suffered due to the large increase in foreign refining facilities including the shipments from West Indies plants. The latter shut out of the domestic market in the United States due to the import tax, have increased their shipments to European and South American countries and have taken business which formerly was a part of the export gasoline business of this country. As a result of this change brought about largely by the import tax, the export gasoline business which totaled 179,700 bbls. daily in 1930 decreased to 73,000 bbls. daily the first five months of this year, or a loss of more than 100,000 bbls. daily.

The export kerosene business which decreased steadily from 1928 through 1933 showed an increase of approximately 300,000 bbls. the first six months of this year compared to the same period in 1933. The kerosene exports averaged 25,000 bbls. daily for the first half year which compares with a daily average of 60,000 bbls. in 1928 and 54,000 bbls. in 1929.

Exports of gas oil and fuel oil increased the first half year with an average of 77,000 bbls. daily. There was a steady demand at the Gulf Coast for gas oil suitable for cracking stock from refineries in France and other countries. The exports of these products averaged 55,800 bbls. daily in 1933, 54,600 bbls. in 1932 and 129,000 bbls. in 1927.

Exports of lubricating oils are holding up better than any of the other refinery products. The exports for the first five months averaged 22,500 bbls. daily which was slightly greater than the average for the first six months of 1933 and compares with exports of 30,100 bbls. daily in 1928, the peak period in the export movement of lubricating oils. The export demand for wax decreased the first half year after showing a large gain in 1933 over 1932.

California Receipts Gain

The large increase in the movement of

(Continued on Page 78)

TABLE 2—IMPORTS OF CRUDE OIL AND REFINERY PRODUCTS FIRST SIX MONTHS OF 1934 AT PRINCIPAL PORTS IN UNITED STATES. TOTAL FIGURES FOR FIRST SIX MONTHS OF 1933
(Data in barrels)

	Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast	Grand total	Crude oil	Fuel oil
January	353,000	.....	2,218,000	847,000	138,000	3,556,000	68,000	3,624,000	2,713,000	911,000
February	282,000	72,000	2,310,000	535,000	208,000	3,407,000	169,000	3,576,000	3,024,000	552,000
March	317,000	60,000	2,088,000	641,000	180,000	3,286,000	66,000	3,352,000	2,097,000	2,837,000
April	293,000	.....	2,236,000	953,000	211,000	3,693,000	205,000	3,898,000	1,255,000	1,061,000
May	315,000	.....	2,728,000	839,000	482,000	4,364,000	.....	4,364,000	3,078,000	1,286,000
June	453,000	58,000	2,797,000	725,000	488,000	4,521,000	220,000	4,741,000	3,620,000	1,121,000
Total	2,013,000	190,000	14,377,000	4,540,000	1,707,000	22,827,000	728,000	23,555,000	15,787,000	7,768,000
First six months 1933	1,268,000	671,000	13,874,000	4,833,000	1,564,000	22,210,000	400,000	22,610,000	15,237,000	7,181,000

All data derived from weekly reports of A.P.I.

TABLE 3—1934 RECEIPTS OF CALIFORNIA REFINERY PRODUCTS AT ATLANTIC PORTS

	Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast	Grand total	Gasoline	Kerosene	Fuel oil and gas oil
January	87,000	429,000	884,000	165,000	926,000	2,491,000	.....	2,491,000	530,000	468,000	1,493,000
February	90,000	204,000	1,228,000	187,000	649,000	2,358,000	.....	2,358,000	591,000	137,000	1,630,000
March	256,000	570,000	608,000	.....	580,000	2,014,000	.....	2,014,000	220,000	204,000	1,590,000
April	183,000	463,000	742,000	464,000	591,000	2,443,000	.....	2,433,000	858,000	117,000	1,468,000
May	95,000	66,000	1,077,000	347,000	961,000	2,546,000	.....	2,546,000	635,000	159,000	1,752,000
June	140,000	276,000	875,000	463,000	542,000	2,301,000	.....	2,301,000	689,000	11,000	1,601,000
Total	851,000	2,008,000	5,414,000	1,626,000	4,249,000	14,153,000	.....	14,153,000	3,523,000	1,096,000	*9,534,000
First six months 1933	790,000	92,000	2,628,000	1,760,000	1,874,000	7,142,000	739,000	7,881,000	4,501,000	951,000	†1,690,000

*Includes 8,000 bbls. of lubricating oil. †Includes 16,000 bbls. of lubricating oil. All data derived from A.P.I. weekly reports.

Believers in Nonscientific Appliances for Finding Oil Jump to Defense of These Methods

From J. H. EBY, E.M.
Mining Engineer and Geologist.
Spokane, Wash.

I read the article, "Superstition, Credulity and Psychic Nonsense Play a Busy Part in Hunt for Oil and Gas." That sounds just like an ignorant hillbilly expressing an opinion on geophysical prospecting, and smelling for water with a peach switch is no more ridiculous than the work I seen done in this state by radio prospecting. To see an engineer recording and two field men packing a big box around as they wore ear phones called out the reaction. The whole thing was platted and the location of the ore chimneys worked out at a cost of $600 and the miners dug and dug and never found a chimney where they said nor anywhere near it.

Being an engineer you naturally think that I would say amen to the title of the article and in 1887 I did say just that about the witching for water. I was in college at the time and had to be shown to believe. During the summer I lived at home on a country place. It is in the Lancaster, Pa., quadrangle U.S.G.S. The country rock is early Cambrian. The place is on a hill composed of shale with limestone in the valleys on each side. There was a dug well on the place 40 feet deep which furnished the water supply and there were numerous other wells with water, and all had been located by the peach switch method. There was one well located by a man who pronounced water witching a fraud and bunk. He had the well dug at the place he wanted a well. He sunk 65 feet, and not a drop of water. It was as dry as a bone.

Hired Man Showed Him How

The hired man one day told me about finding water with a forked peach switch. I laughed at him and he proceeded to show me how it was done. He said that not everybody could do it. Why he did not know. It worked for him so he had me try it and it worked just as well for me. So I started to find out more about it. First I tried switches of every kind of wood. willow, chestnut, witch hazel, apple, oak, hickory, sassafras, etc. The result of the experiment was that the switch worked in inverse ratio to the rapidity of growth of the switches. Oak and hickory worked feebly. Rapid growth switches worked the best.

Having done this I started the search for water streams, as we wanted other wells. There was one particular place we wanted one and I did not find it. This proved that it was not a matter of mental suggestion, for if it was, the switch would surely have dipped somewhere near that place.

Then I surveyed the water courses with the switch and platted the results on a sheet of foolscap paper. Two wells were later drilled on two of these water courses and found large supplies of water. The dug well had to be cleaned out so I went down in a bucket, lighting the well by a number of mirrors with sunlight.

I found that a fault in the shale cut across the well on the strike of the water course I had traced on surface. So it was a fault I had found with the switch. Then I went down the well which had no water and there was no fault in it. So I was pretty well satisfied that the reaction with the forked switch was a real fact based on structural conditions in the rock mass over which I walked.

I just forgot all about it for about six years as I was out west doing mining engineering and geological work. I went back for a visit and the fault contact with the limestone had been opened up by a shale quarry at the brick plant to the west of the road leading up the hill. There was what I had located with the peach switch. I then checked up and verified other observations, the overthrust fault on the south side of the hill and the extension of the crushed zone on the north side of the hill.

Doesn't Try to Explain It

I am not making any attempt to explain just how it works but my location made by the peach switch was entirely verified by the geological conditions and the occurrence of water courses. I then reproduced the map on the enlarged topography.

This is evidence in fact. It is not superstition nor is it any of the things which water witching is accused of. Just because you can't figure it out in lines of force or radio wave lengths you can't refute it. There it is. Go there yourself and see if you don't believe it. What do you know about radio waves, etc.? All you do know is that certain things are done, certain evidence in fact that can't be denied and then you explain it by calling it radio waves, frequency, etc.

I have no idea just how important the reaction of the forked switch may be but just because it works in the hands of unsophisticated country rubes, uneducated people, and was not evolved by a geophysicist or engineer doesn't invalidate it. If it had been a jigger made up in some electrical laboratory with a jolly balance and a mirror and rheostat and a lot of other little things it would be hailed as a wonderful invention.

It has never been investigated with an open mind. Its very simplicity is its undoing. To turn a bunch of slide rule galvanometer men loose on it means its immediate condemnation.

You don't want to make such sweeping statements as you did in that article until you know more about it.

From A. B. NICKELL
Fayette, Mo.

It is not my intention to enter into an argument, but your contribution in The Oil and Gas Journal, entitled "Superstition, Credulity and Psychic Nonsense Still Play a Busy Part in Hunt for Oil and Gas," prompts me to relate to you some observations I am taking of an old gentleman here in Fayette. It is perhaps just such things as seen in the actions of this old man, that cause much of the superstition. From your writings, I am sure you are very much set against any supernatural powers, and I have always preached and felt that way, and have been taught, that no "doodle-bug" could correctly predict oil in advance of the drill. It's hard for a man not to believe what he sees with his own eyes, and I am not so sure now as I was a few months ago, but what there is some inkling of that kind of power, and it is possible that this power might be used by a conscientious geologist if the location was a spot where the outcrops told him that a structure existed there, such as an anticline, dome, terrace, or suitable fault that might make a natural trap to hold oil in commercial quantities. I am not saying that there is such a power, and I am not saying that there is an attraction between one body of oil with another body of oil when connected by a certain electrical current, but from observation, it might be possible.

From "Water Witching" Family

Henry Newton Peacher is a native of this county. He comes from a "water witching" family. His father and grandfather both practiced this faith. He has a reputation all over this county for locating water and fully half of the farmers here would no more think of having a well dug before getting Mr. Peacher to select the spot than they would think of trying to run an automobile without gas. This district has no sheet water, it all runs in seams or veins. A well may have an abundance of water at 25 feet, while another hole dug on an adjoining acre, may be dug 50 or more feet deep and be as dry as a powder horn. Many people will tell you that Peacher tells them in advance just how many feet they will have to dig before encountering the vein.

Peacher does not use the proverbial peach tree or hazel fork. He claims they will not work for him, but he does use a limb which is green and sappy, to which a container holding water is attached. His argument is, "Like attracts like," and he says this attraction becomes greater when connected with the human electricity thrown off by his body. One of his favorite demonstrations as to this body electricity as he calls it, is to take a man's watch and hold it under his arm pit for a few minutes, and have you listen to the watch stop ticking. He insists he has never been able to get a watch, no matter how expensive, to run and keep time when placed near his skin.

In 1863, while the Civil War was in progress, the body of a Union soldier from this county (Howard) was sent to Fayette for burial. The man had died in the army from measles. His old home was 6 miles west of the town of Fayette, and he was buried there in a little family cemetery on the Bowers farm, in a heavy copper coffin. This land changed hands many times, and the little cemetery was totally neglected, and for years it has been in a blue grass pasture, where livestock knocked down all the tombstones. Last year a move was started to place a monument over this Union soldier's grave, but when everything was ready, they could not locate the spot as all signs of his grave had been removed and in blue grass sod. Old-timers knew, and the records showed that he was buried on the west slope of a certain low ridge or hill, but they were not sure of the exact spot. Peacher had previously gained some notoriety for locating lost water mains for the street and water department, when they did not know just where the pipes were laid, so it was decided to send for Peacher.

Peacher placed a piece of copper in his instrument and went nosing over the old cemetery, but his instrument kept pointing off to the north, over 100 feet from where they thought the soldier was buried. They finally decided to dig at that point. They went down 5 feet, but no coffin showed up, but the ground had the appearance of having been formerly stirred, so they decided to dig on, and at almost 6 feet, their shovels run into the top of a copper coffin, and there the soldier's monument stands today. Now this is a matter of record here, and can be verified and sworn to before officials.

Short time ago I had occasion to drive to Amarillo, Tex., and I took Peacher along with me, purely for experimental purposes. I will not take time to go into details, but I will say his "guessing" was wonderful, even in fields after night, when it was so dark he could not possibly see any signs of oil activity. And it has led me to believe that there might be some kind of power that a geologist might put a little trust in, if the power works over a well formed structure.

He has a tendency to get excited when working over oil attraction. His actions put me in mind of a hunting dog following a hot trail. This tendency may come from aroused body electricity.

From ROBERT L. STEFFEY
Jackson, Miss.

You don't know with what great interest we read your article in The Oil and Gas Journal.

When W. L. Wood, of the Magnolia Petroleum Co., and I were in Florida a couple of years ago we ran upon a bird who could tell where oil or gas was located beneath the surface by the different rumbles he experienced in his stomach.

From HENRY PAULY
Topeka, Kans.

I read your article in The Oil and Gas Journal wherein you say superstition, credulity, and psychic nonsense still play a busy part in hunt for oil and gas. I must take issue with you on this statement of yours, and will say, you will retract your statement as you stated in this issue.

If you will come with an open, unprejudiced mind, two good eyes, so you can see for yourself what we will show you in any oil field you may want to take us, we will prove to you and show you before your own eyes that we can locate the oil laying dormant under the surface wherever it exists in pools or just strata, from 10-foot width to widths one-quarter mile, one-half mile, or several miles and we can run the length as far as the pools or strata may underlie the surface, when we walk or drive over in an auto or cart, anywhere you want to take us.

My associate and I can locate the oil pools anywhere they exist, beyond any question of doubt. To prove my assertion, you may take us to new wells drilling, 20 or 30 or 50 wells, any number. In a few days' drive in an auto give us 10 or 15 minutes' time at each well. We will forecast each well and tell you what the drill bit will develop when the well is drilled and completed.

In other words, you set a stake on your lease, approved by your geologist and expert oil locater for an oil test or well. We can go to this test if you take us there and in 10 minutes' time we will tell you what you will develop when completed if you drill at that stake set for an oil well. If we find it dry hole location, save your money for no

(Continued on Page 96)

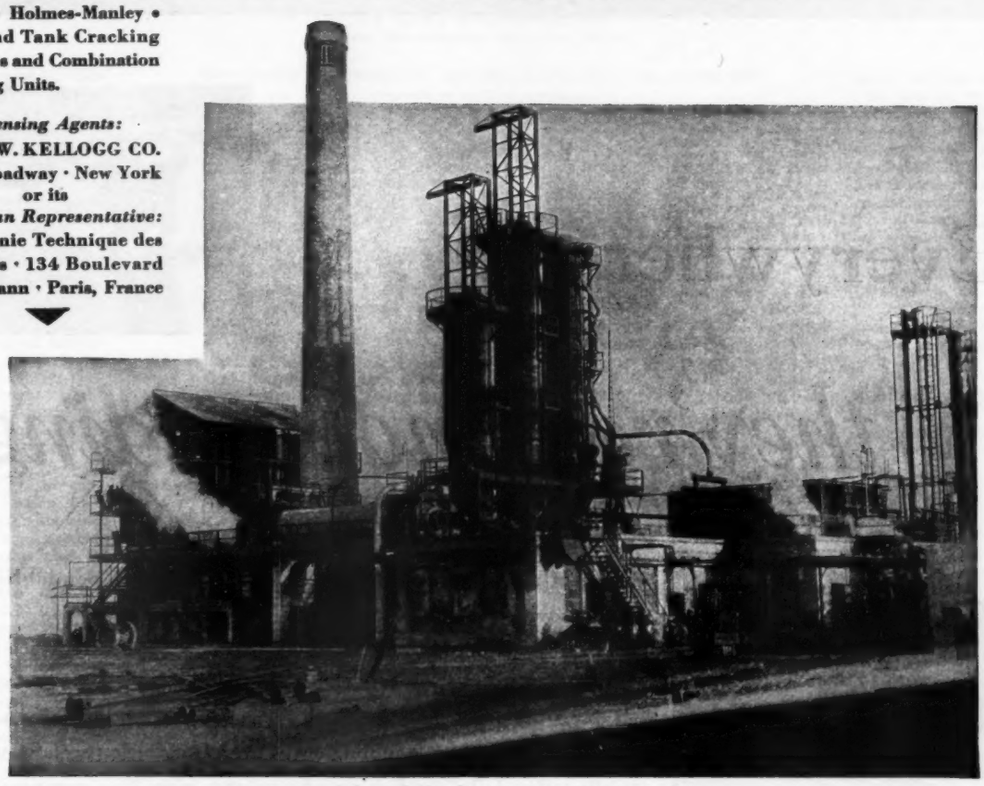
This Gives Dissenter a Chance to Have His Say

Many comments, some commendatory, others critical, a few sarcastic, were evoked by an article recently published in The Oil and Gas Journal under the headline "Superstition, Credulity and Psychic Nonsense Still Play a Busy Part in Hunt for Oil and Gas." In the belief that they will be read with interest, some of these comments are published here.

in JAPAN

LICENSES granted under United States and Foreign Patents for: Cross • de Florez • Holmes-Manley • Tube and Tank Cracking Processes and Combination Cracking Units.

Licensing Agents:
The M. W. KELLOGG CO.
225 Broadway · New York
or its
European Representative:
Compagnie Technique des Petroles · 134 Boulevard Haussmann · Paris, France



CRACKING KETTLEMAN-HILLS CRUDE

This Japanese refinery is one of many in various parts of the world operating cracking units designed under the licensing rights of this organization. Such units employ any or all of the outstanding features of the Cross, de Florez, Holmes-Manley and Tube and Tank processes, assuring the refiner a cracking unit of sufficient flexibility to fulfill his particular requirements.

We suggest you investigate the broad and comprehensive service of Gasoline Products Company before investing in cracking equipment.

GASOLINE PRODUCTS COMPANY

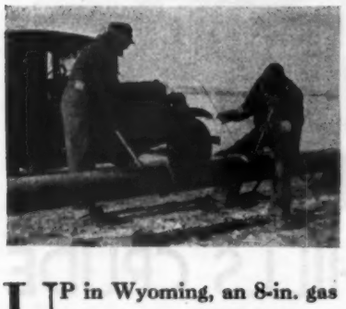
INCORPORATED

11 COMMERCE STREET · NEWARK, NEW JERSEY

"WE ORDER EVERYTHING FOR PIPE LINE WELDING FROM LINDE"

Everywhere . . . . .

they're Lindewelding



UP in Wyoming, an 8-in. gas line was Lindewelded in weather well below freezing. A Linde Service man helped train the welders in the latest Lindewelding technique, further reducing time per weld by 15 per cent.

In sunny California, 40 miles of 26-in. pipe was Lindewelded. Through broiling heat Linde Service Operators followed every phase of the work to high speed records with each welder making over 20 welds per day.

Winter or summer, Lindewelded pipe lines continue to lead. Lindewelding speed—doubling or tripling the daily production of sound welded joints—helps offset weather delays or obstacles which cannot be avoided. The wide experience of Linde Service men in planning pipe line welding operations helps with short-cuts to overcome right-of-way difficulties due to hilly or swampy ground, or to creek, bayou or river crossings. *Linde Process Service* is your means of having pipe lines constructed under any conditions with speed, dependability and profit.

Linde Process Service is supplied without charge to Linde customers. The features and savings it affords explain why so many pipe line companies buy *Everything for Pipe Line Welding from Linde.*

Information on the latest developments in Lindewelding is yours for the asking. The nearest Linde Sales Office has data and figures to show how Lindewelding has been profitably used on pipe lines in your own vicinity. Call, write or telephone and this helpful information will be furnished you without obligation.

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

126 Producing Plants UCC 85 Warehouse Stocks

IN CANADA, DOMINION OXYGEN CO., LTD., TORONTO

LINDE OXYGEN • PREST-O-LITE ACETYLENE • OXWELD APPARATUS AND SUPPLIES • UNION CARBIDE

UCC

Users of products and processes developed by Units of Union Carbide and Carbon Corporation benefit from a most unique coordination of scientific research with manufacturing, sales and service facilities. You are cordially invited to visit this summer the numerous exhibits sponsored by the Corporation in both the Basic and Applied Science sections in the Hall of Science at Chicago's 1934 A Century of Progress Exposition.

Sales Offices:

Atlanta	Houston	Portland, Ore.
Baltimore	Indianapolis	St. Louis
Birmingham	Kansas City	Salt Lake City
Boston	Los Angeles	San Francisco
Buffalo	Memphis	Seattle
Butte	Milwaukee	Spokane
Chicago	Minneapolis	Tulsa
Cleveland	New Orleans	
Dallas	New York	
Denver	Philadelphia	
Detroit	Phoenix	
El Paso	Pittsburgh	

Open No New Fields in California in First Half But Several Areas Show Good Prospects

By L. P. STOCKMAN
Staff Correspondent, California Fields

No new fields were discovered in California in the first half of the current year but several wildcats were started in areas that show some promise and consequently exploration work may be productive of satisfactory results later in the year. Production showed an increasing tendency from month to month and reached the highest level during the month of June. This was due to increased allowables granted by the petroleum administrator together with the fact that evasion of curtailment obligations continued during the period in question Secretary Ickes has stepped up the allowable production for July and August because of the increased demand incident to the summer season and consequently state production will reach a somewhat higher level before being pinched back again during the winter season due to a lower demand.

Stricter Curtailment

The new marketing agreement will greatly enchance curtailment in as much as refiners have agreed not to produce, buy or utilize any oil in excess of the amount prescribed by the petroleum administrator. If refiners violate this provision they will be in contempt of court, since the marketing agreement provides for adherence to curtailment and compliance with the petroleum code.

Potential production of the State showed a consistent increase during the first half of 1934 and while the allowable production did not keep pace with the gain in potential it showed an upward tendency. Allowable production was set at 437,600 bbls. per day in January and this daily quota remained unchanged during February. In March, operators were given a daily quota of 453,900 bbls. but this was increased to 462,500 bbls. per day in April and further increased to 462,300 bbls. in May and 500,300 bbls. per day during June. During this period San Joaquin Valley fields were stepped up from 168,100 bbls. per day in January to 199,700 bbls. per day in June. The coastal fields showed a small decline in allowable production as the quota was cut from 54,750 bbls. in January to 52,280 bbls. per day during June. Los Angeles Basin fields were given an increased allowable as the quota was raised from 214,750 bbls. per day in January to 248,320 bbls. daily in June.

Development Work

Wildcat exploration and development work in proven fields showed a substantial increase during the first half of the current year. The number of new wells completed is approximately twice the number finished during the same period last year and a check of drilling wells indicates that there were more new wells drilling at the close of June, 1934, than there were at the end of 1933. This is a very promising condition and from all indications it appears quite probable that drilling operations during the next year will be substantially above the average for the past three years. The aggregate initial daily production of new wells finished during the first six months of 1934 is far in excess of similar data for the past three years and it is quite likely that the initial production added by new wells during the current year will exceed the total amount of new production added during the year 1930.

Much of the aggregate initial daily production of new wells finished during the first six months of 1934 is due to the prolific production of new wells in the Kettleman North Dome Field although recent completions in the Mountain View Field of Kern County have also shown up rather favorably.

PRODUCTION OF CRUDE BY MONTHS—CALIFORNIA OIL DISTRICTS
(Barrels of 42 U. S. gallons)

Month—	1934 Total barrels	1934 Daily average	1933 Total barrels	1933 Daily average
January	14,163,468	456,886	14,460,282	446,461
February	12,593,784	449,778	13,107,043	468,109
March	14,710,467	474,531	13,414,950	432,741
April	14,472,785	482,426	14,262,943	475,431
May	15,070,718	486,152	14,817,633	477,988
June	15,448,234	514,941	14,344,654	478,155
Total first half	86,459,456	477,676	84,407,535	466,340

Deep Drilling

The General Petroleum Corp. established a new deep drilling record in the United States when No. 1 Berry in the South Belridge Field of Kern County, was carried down to 11,377 feet. The well showed up exceptionally good during drilling operations but failed to show commercial production due, it is believed to the caking of heavy mud in the bottom of the hole. The company at the close of June was still endeavoring to clean out the mud so that a satisfactory production test could be made. Washing out the hole to bottom has not been productive of the rseults expected and it would not be at all surprising if the company pulled the 4¾-inch liner and scraped out the hole. This well certainly warrants a thorough test as the development of commercial production at this depth would greatly stimulate deep drilling and substantially increase the future production of the General Petroleum.

The deep Cruz zone in the Montebello Field of Los Angeles Basin failed to become a factor of any consequence during the first six months of 1934 but may show up better before the year draws to a close. The petroleum administrator approved a development program for deep zone drilling and in conformity therewith the Union Oil Co. is privileged to begin drilling operations on a new well at any time. The Standard, Fullerton Oil Co., St. Helens Petroleum Co. and the Universal Consolidated have already started drilling operations and the outcome of this work should determine the productivity of the Cruz zone in the near future. The Universal Consolidated, discoverer of the Cruz zone, has drilled two unsuccessful wells on the Alvitre and Repetto leases and at the close of June was still endeavoring to recomplete No. 1 Cruz which was deepened and ran into a water sand. The Texas Co. started three new wells down to the Cruz zone but suspended drilling operations on two of them when No. 4 Barry encountered a troublesome water problem. This well had not been completed at the close of the first half of the year.

Mountain View

The areal limits of the Mountain View were greatly extended during the past six months when the Union Oil Co. successfully completed its No. 1 Kernco, an outpost located more than 1½ miles from the nearest production. Subsequently, operators drilled up some of the intervening territory and succeeded in developing substantial production. The Mountain View Field, based on the limited amount of data available at the present time, appears to be a monocline with the largest production available near the fault which marks the northern limits of production.

The Shell pioneered this field several years ago but failed to develop commercial production. The Hogan Petroleum Co., headed by Dana Hogan, subsequently drilled a new hole on the Porter-Day property and succeeded in finishing a good well. Since that time this company has successfully completed several excellent producers in the immediate area. The Mohawk Petroleum Co., one of the early pioneers with Shell, has completed a number of good producers and is at the present time the largest individual producer in the field. Other operators in the field include, Standard, Shell, Barnsdall, General Petroleum, Union and a number of independent operators. Mountain View had a rated potential production of 15,950 bbls. per day during the month of June. Development work is progressing at a normal rate and the field should continue rather active during the next several months.

Inglewood

Operators in the Inglewood Field of Los Angeles Basin started active exploitation of the Rindge zone following approval of a development program by the petroleum administrator. The terms of this agreement, approved by all operators in the field, provide that a stipulated number of new wells can be finished during the current year. Unlike the development programs of many other fields which provide that operators can not drill more than one well to each 10 acres, the Inglewood agreement specifically states the number of new wells that each operator can drill. The allotment of wells was predicated on the amount of acreage held by each operator and the probable ultimate recovery of each lease. The Standard Oil Co. and the Pacific Western have already finished two excellent wells each and the Shell should complete its No. 16 Rindge before this gets into print. In addition to this development work, the Pacific Western Oil Co. is drilling a deep Miocene test on

PRODUCTION OF CRUDE BY DISTRICTS, JANUARY TO JUNE, INCLUSIVE, 1934

Northern Fields—	January	February	March	April	May	June	Total
Belridge, North	215,132	190,189	224,621	199,779	218,005	167,243	1,214,969
Belridge, South	46,803	52,664	63,334	62,143	66,087	61,074	351,155
Coalinga	491,735	420,171	515,849	487,706	533,525	617,803	3,066,789
Elk Hills	352,864	292,502	342,741	337,252	277,292	256,287	1,848,938
Fruitvale	124,353	97,711	115,546	111,547	117,660	120,431	687,266
Kern River	271,186	256,344	292,736	278,231	319,816	326,947	1,745,260
Kettleman Middle Dome	13,434	10,749	8,350	6,640	8,186	6,112	53,471
Kettleman North Dome	1,582,936	1,382,795	1,692,159	1,675,564	1,826,301	1,832,835	9,995,490
Lost Hills	86,360	72,735	105,458	107,831	115,962	132,315	621,661
McKittrick	81,040	81,959	98,373	97,216	96,973	97,727	553,188
Midway-Sunset	1,629,631	1,423,186	1,673,694	1,628,041	1,767,250	1,724,317	9,845,959
Mountain View	81,102	103,528	133,626	175,924	192,501	228,292	904,973
Mount Poso	250,681	225,366	253,785	262,196	268,000	321,884	1,581,912
Round Mountain	155,666	144,489	185,890	151,318	154,431	150,466	942,260
Wheeler Ridge	13,683	12,271	13,554	12,939	13,604	13,101	79,151
Coastal Fields—							
Capitan	10,129	8,482	10,579	10,328	15,957	17,131	72,606
Elwood	387,593	358,133	379,878	351,934	360,170	347,660	2,185,367
Rincon	48,020	42,845	47,877	51,023	47,476	42,298	279,039
San Miguelito	25,816	26,352	28,735	20,938	22,452	20,739	145,032
Santa Barbara	17,693	21,284	15,867	16,574	28,909	29,889	130,216
Santa Maria	154,584	128,595	144,851	145,247	152,310	163,710	889,297
Summerland	2,083	1,843	2,073	1,964	1,161	1,606	10,730
Ventura Avenue	996,069	837,855	987,282	821,529	828,581	802,619	5,274,235
Ventura-Newhall	99,448	98,189	105,159	109,930	116,937	120,817	655,500
Watsonville	1,860	1,680	1,860	1,800	1,860	1,800	10,860
Southern Fields—							
Brea Olinda (Fullerton)	274,453	246,166	282,714	280,021	321,793	349,451	1,754,598
Coyote, East	51,691	54,216	58,858	72,889	80,370	95,815	413,839
Coyote, West	256,373	228,548	264,026	262,892	259,312	309,908	1,581,059
Dominguez	503,339	462,191	552,872	614,367	531,239	606,762	3,261,280
Huntington Beach	1,196,087	1,088,804	1,243,723	1,190,477	1,292,463	1,412,742	7,423,296
Inglewood	281,840	249,976	288,324	275,394	243,801	286,731	1,625,066
Lawndale	5,170	4,454	5,299	4,287	4,343	4,919	28,542
Long Beach	1,806,234	1,606,206	1,930,131	2,008,036	2,113,767	2,174,317	11,638,581
Los Angeles-Salt Lake	22,867	21,862	26,468	22,669	24,865	24,105	142,389
Montebello	154,885	142,269	158,581	152,451	159,953	163,841	931,980
Newport	.....	.....	.....	.....	.....	.....	.....
Playa Del Rey	290,122	247,658	279,438	293,125	282,424	285,069	1,667,836
Potrero	13,223	11,090	12,947	14,041	13,674	12,359	76,334
Richfield	230,119	209,548	232,630	227,972	246,334	253,458	1,400,620
Rosecrans	86,492	73,979	76,840	81,623	80,775	87,188	486,897
Santa Fe Springs	1,282,947	1,156,791	1,299,104	1,287,752	1,294,120	1,345,911	7,566,626
Seal Beach	333,652	293,598	339,107	331,085	326,552	300,639	1,918,923
Torrance	204,224	180,899	198,061	193,329	215,252	218,609	1,210,374
Whittier	34,443	31,863	34,957	32,480	33,982	32,947	200,672
Total production	14,163,468	12,593,784	14,710,467	14,472,785	15,070,718	15,448,234	86,459,456
Daily production	456,886	449,778	474,531	482,426	486,152	514,941	477,676

the Rubel property and this work should prove of great value in future drilling. The well in question has already proved up a third zone in the Pliocene but did not stop for a test as its objective is the underlying Miocene.

Edison

The Edison area of Kern County came to the limelight during the past few months by reason of the completion of two fairly good wells. It is a little too early to venture an opinion as to the future possibilities of this area although there is a good indication that this district will become a recognized field within the next few months. This is the nearest operators have come to discovering a new field in California during the year to date and subsequent drilling may prove beyond a doubt that this is a large productive area. The first two wells finished showed a great disparity in the gravity of oil found and for this reason it will require some further drilling to determine whether there is one or two fields in the Edison district. Edison is located east of the center of the Mountain View Field. The pay is found at a relatively shallow depth, varying from 2,200 feet to 3,300 feet, and for this reason the true significance of the district is more or less obscured.

During the early part of the current year, marketers experienced a rather costly gasoline price war which drove the price of motor fuel down substantially below costs. This competitive struggle for gallonage lasted for several months and prices were not restored completely until late in June. Crude and refined oil stocks held in Pacific Coast territory declined more than 13,000,000 bbls. during the first six months of 1934 due primarily to an increased demand for fuel oil for domestic and foreign use. The demand for fuel oil for domestic consumption on the Atlantic Seaboard has greatly alleviated conditions on the Pacific Coast where fuel oil has been a drug on the market for a number of years. It will require another year at the present rate of withdrawals to bring California fuel oil stocks down to economic levels. Gasoline stocks on the Pacific Coast held relatively steady during the year to date but there was a decline of approximately 300,000 bbls. in naphtha distillates. Refining crude and other finished and unfinished products held quite steady. Gasoline shipments from California to foreign and domestic ports during the first six months of 1934 are substantially below the liftings for the same period last year but fuel oil shipments are far in excess of 1933.

CALIFORNIA FIELD OPERATIONS BY MONTHS FOR FIRST HALF YEAR 1934

1934—	Wells completed No.	Wells completed Bbls. dly.	Wells Drlg.	Wells Prod'ng	Abandoned Drlrs.	Abandoned Prodrs.	New rigs
January	30	43,957	161	10,605	23	23	59
February	21	10,418	180	10,624	7	13	28
March	25	30,976	183	10,780	9	16	40
April	39	49,516	187	10,831	25	10	42
May	43	83,009	188	10,909	10	24	58
June	35	36,334	200	11,007	6	8	52
Total first half year 1934	183	254,210			80	94	279
Total first half year 1933	85	77,978			62	130	129
Total first half year 1932	95	63,235			114	84	112
Total first half year 1931	167	188,750			119	90	150

CALIFORNIA FIELD OPERATIONS BY DISTRICTS FOR FIRST HALF 1934

Northern—	Wells completed No.	Wells completed Bbls. dly.	Oil & gas wells* Drlg.	Oil & gas wells* Prod'ng	Abandoned Drlrs.	Abandoned Prodrs.	New rigs
Beiridge—North	1	5,852	3	21	..	1	5
Beiridge—South	..	.....	1	99	..	1	..
Buttonwillow Gas Field	..	.....	...	.....	..	..	..
Coalinga	..	.....	...	883	..	1	..
Dudley Ridge Gas Field	..	.....	2	.....	..	..	3
Elk Hills	..	.....	...	202	..	..	..
Fruitvale	2	479	2	62	1	2	2
Kern River	4	606	...	1,228	..	3	6
Kettleman Middle Dome	..	.....	1	1	..	..	..
Kettleman North Dome	17	150,066	24	58	1	..	26
Lost Hills	..	.....	1	280	..	..	..
McKittrick	..	.....	1	192	..	1	2
Midway-Sunset	4	2,657	5	2,311	1	9	16
Mountain View	16	22,750	15	13	5	..	36
Mount Poso	18	6,519	5	127	2	1	25
Round Mountain	3	870	1	39	1	..	3
Wheeler Ridge	..	.....	...	34	..	..	..
Total	65	189,799	61	5,550	11	19	124
Coastal—							
Capitan	1	50	1	7	..	..	2
Elwood	3	5,841	4	51	..	1	8
Goleta Gas Field	..	.....	1	1	..	..	1
Rincon	..	.....	...	33	1	..	..
San Miguelito	..	.....	...	3	1	..	1
Santa Barbara	3	3,320	2	16	..	1	7
Santa Maria	1	115	2	173	3	..	3
Summerland	1	Gas	...	28	..	..	..
Ventura Avenue	5	7,888	10	176	1	5	5
Ventura-Newhall	2	115	9	461	7	..	5
Watsonville	..	.....	...	7	..	..	..
Total	16	17,329	29	956	13	7	32
Southern—							
Brea Olinda (Fullerton)	..	.....	...	346	..	2	1
Coyote—East	2	175	1	67	..	..	1
Coyote—West	5	2,323	4	33	..	..	7
Dominguez	13	11,350	5	61	..	..	14
Huntington Beach	19	13,995	4	464	5	12	7
Inglewood	4	4,746	3	295	3	1	9
Lawndale	..	.....	...	7	..	1	..
Long Beach	50	12,053	26	1,046	3	7	39
Los Angeles-Salt Lake	..	.....	...	157	..	17	..
Montebello	3	1,177	9	173	..	2	11
Newport	..	.....	..	.....	..	..	..
Playa Del Rey	2	867	1	169	1	4	4
Potrero	..	.....	...	10	1	1	..
Richfield	..	.....	1	219	1	5	..
Rosecrans	..	.....	...	66	3	1	..
Santa Fe Springs	3	391	3	535	4	12	6
Seal Beach	..	.....	1	122	1	..	..
Torrance	..	.....	...	455	..	3	..
Whittier	..	.....	...	152	..	..	..
Miscellaneous	..	.....	32	.....	34	..	24
Total	102	47,082	93	4,287	56	68	123
State total	183	254,210	183	10,793	80	94	279

*Monthly average.

TOTAL FLUID STOCKS OF PETROLEUM HELD IN PACIFIC COAST TERRITORY
(Barrels)

1934—	Heavy crude and fuel	Refinable crude	Gasoline	Naphtha distillates	All other stocks	Total all stocks
January 31	90,140,028	35,644,592	15,924,219	1,417,035	6,775,955	149,901,829
February 28	87,229,167	35,119,389	16,675,477	1,454,966	6,846,517	147,324,936
March 31	84,536,718	35,843,081	15,890,300	1,092,530	6,784,811	144,146,430
April 30	82,416,946	35,658,654	15,286,473	1,087,446	6,771,065	141,214,584
May 31	80,365,963	35,366,353	15,242,364	1,064,221	7,091,292	139,130,192

President Byles' Radio Address on Tax Burden

"Tax reduction" is a phrase used "only by prophets crying in a wilderness of debt," but deserves greater popularity, says President Axtell J. Byles, of the American Petroleum Institute. Mr. Byles, a guest speaker of the Public Affairs Council, which is sponsoring a series of Friday evening radio tax discussion during July and August with co-operation of the National Broadcasting Co., advocated reduction of government costs and the levying of a general manufacturer's sales tax. Mr. Byles' address follows:

"The power to tax is the power to govern. It is likewise the power to destroy even government itself.

"The nation is becoming tax conscious. The oil industry has been tax conscious for some years. There are levied currently upon this industry 26 Federal, 68 state, 19 city and 5 county taxes. Altogether 118 different taxes upon its property and operations.

"In the 12 years from 1921 to 1932 inclusive, the industry's net earnings were about $2,000,000,000, while its tax bill was about $5,000,000,000. It had deficits in three of the 12 years and in only four did earnings equal or exceed taxes. Its tax bill today is approximately $1,000,000,000 a year, or at the rate of about $1,000 for each worker employed. The petroleum industry is ready and willing to bear its full share of the essential tax burden, but, like other industries and an increasing number of other taxpayers, realizes that tax duplication is almost as great an evil as excessive taxation.

"You, the customers of this industry, also are hurt by tax duplication. You pay from two to four taxes upon every gallon of gasoline you purchase. These cumulative taxes in some states range as high as 12 cents a gallon, which is equal to the average retail price of the product.

"State and Federal gasoline taxes alone average about 5 cents a gallon, constituting sales tax of more than 40 per cent. They cost you more than $700,000,000 a year. As the result of these and other taxes the motorist is paying more than 10 per cent of the total cost of Federal, state and local government. This is not an equitable distribution of the tax burden. It is neither fair to you, to industry, nor in the public interest. Since 1919 the retail price of gasoline has decreased about 50 per cent, while the average tax per gallon has increased several thousand per cent.

"Governmental agencies seem, at the present, to be of the opinion that $1 per barrel is a fair base price for crude oil. Total taxes upon the gasoline and lubricating oil content of each barrel of crude average $1.32. It is obviously impossible for $1 oil to absorb this tax and also pay for the cost of producing, transporting, refining and marketing.

"The Federal Government is studying foreign tax systems to ascertain how to obtain more revenue. From this study it will probably learn that the British citizen contributes in national and local taxes about 23 cents out of each dollar he earns, the Frenchman about 22½ cents, and the German about 20 cents. We already are paying about 25 cents out of each dollar earned. State and local governments also are seeking ways to increase tax income. Why balance budgets with higher taxes, upset them with larger expenditures, and then build bigger budgets? Only prophets crying in a wilderness of debt seem to use the phrase 'tax reduction.' It deserves greater popularity.

"We are presented with theoretically excellent schemes for lifting ourselves by our own tax bootstraps. One wonders, however, how long the straps will stand the strain. Adding $5,000,000,000 to the Federal budget may be, and no doubt is, commendable from the standpoint of motive, but a budget is only a forecast of tomorrow's tax bill, which either you and I, or our children, must pay.

"I am inclined to believe that we cannot solve our tax problems by merely giving the Government more money to spend. It would seem that vigorous protest and decisive action by tax-ridden citizens are necessary to point the way to the reduction of cost of Government to levels which we can afford. Reasonable taxes broadly distributed, such as would be the case under a general manufacturer's sales tax, and full collection of whatever taxes are levied, would put us on firm ground and restore confidence."

Exports of Crude Oil and Refinery Products Gain

(Continued from Page 73)

California fuel oil to Atlantic Seaboard points more than offset the decrease in gasoline shipments. Due to a shortage along the East Coast, at least two refiners the latter part of last year entered into contracts with California refiners providing for the shipment of large quantities of fuel oil through the Panama Canal for eastern consumption.

Due to these contracts California shipments the first six months of 1934 totaled 9,534,000 bbls. which compares with 1,690,000 bbls. for the first half of 1933. These large shipments are to continue over the next several months.

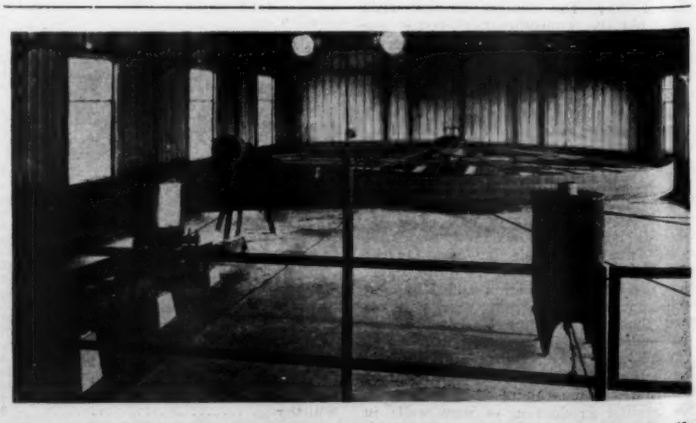
Kerosene shipments from the East Coast refineries also showed a slight increase. Gasoline shipments which declined in 1933 compared to 1932 continue to slump, the decrease for the first six months being 1,000,000 bbls. compared with the first half of 1933. Total receipts of all California products showed an increase of approximately 100 per cent for the first six months.

JOHN A. DROPE DIES

PETROLIA, Ontario, July 21.—John A. Drope died here recently, aged 68. He was prominent for many years as a driller and operator in the Petrolia Field, and for 17 years was employed by Imperial Oil, Ltd., here, retiring last March.

STANDARD OIL KANSAS DIVIDEND

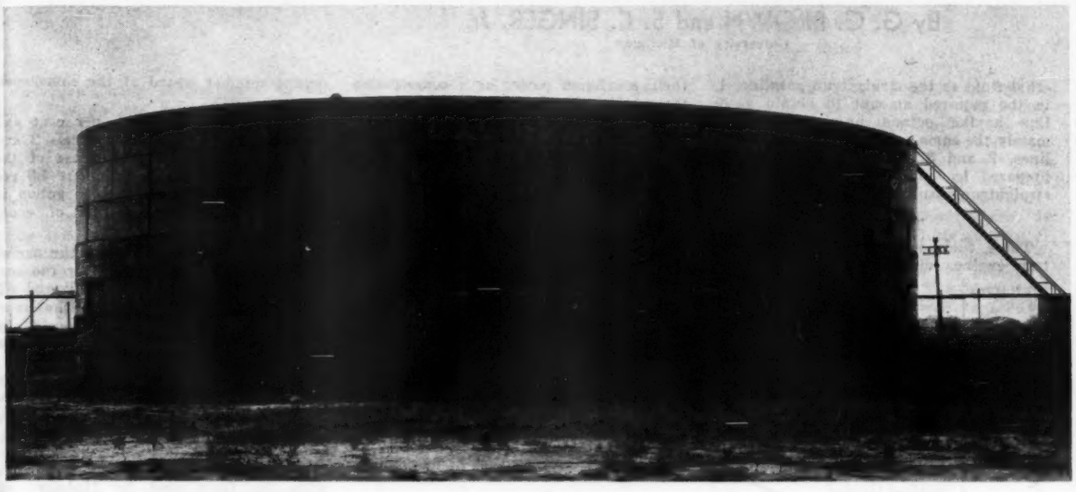
Standard Oil of Kansas directors have announced a dividend of 50 cents a share to stockholders of record October 1, payable October 31.



A new bandwheel power installed in the spring of 1934 in the Cromwell area, Oklahoma, by a major company

A TYPE OF STORAGE TANK

—to meet every evaporation problem



Saving 248 Bbls. of Crude Oil per month in one tank

AN oil company wanted to determine the evaporation loss of crude oil in standing storage due to breathing, caused by temperature changes within the vapor space. In order to do this, identical records were kept for 71 days on two new 118,000 bbl. tanks, one with a cone roof and one with a Wiggins Breather Roof. The seriousness of this loss and the value of using Breather roofs to stop such loss are clearly indicated in the following data.

The tanks are 144 ft. in diameter. They were both filled to the same gauge with East Texas crude. Losses were measured by gauging and also by the Whitman vapor pressure method, samples being tested by the Miner Laboratories, Chicago. The tank with the Breather roof, illustrated above, was gauged both in the gauge hatch and the sample hatch. These points are diametrically opposite, eliminating error in gauging due to settling in the tank.

The accompanying tables contain the summarized results of this comparative test. Table A shows the properties of the oil in storage. Table B calculates the amount lost by evaporation in each component of the oil, emphasizing the oft-repeated truth that evaporation steals the most valuable portions of the oil.

Table C contains the detailed gauging record. Table D the losses computed from this record and from the Whitman method. The average of the losses by these two methods shows a saving in favor of the Wiggins Breather Roof of 248 bbls. per month on a full tank.

Table E shows the dollar saving and the pay out time based on the 248 bbl. per month saving. The figures for a new roof are based on the actual additional cost of a Breather roof over a cone roof.

This illustration is typical of savings which can be effected by specialized equipment. Our experience in the field of evaporation engineering is available without cost or obligation. Ask for specific cost data and figures indicating expected savings for any conditions of oil storage you have in mind.

Table A—Properties of East Texas Crude
Gravity—40.0° A.P.I.
Vapor Pressure at 75°F.—600 m.m.

	Percent of Liquid Volume	Mol Percent	Vapor Pres. at 100°F. in lbs. per sq. in. Absolute	Partial Pres. in lbs. per sq. in. Absolute
Propane	1.0	2.5	187	4 68
I-Butane	1.9	3.6	73.9	2.66
N-Butane	2 4	4 9	52.4	2.57
I-Pentane	2 1	3.6	20.4	0.73
N-Pentane	2 1	3.6	15 6	0.56
Residue	90.5	81.8	2 0	1.64
	100			12.84

Table B—Composition of Oil Lost by Evaporation

	Original liquid volume in cone-roofed tank	Liquid volume in portion evaporated	Percent of each lost by evaporation
	(Bbls.)	(Pct.)	In 71 day test
Propane	1,129	29.8	16.75
I-Butane	2,145	20.4	6.05
N-Butane	2,709.5	19.2	4.49
I-Pentane	2,371	6.2	1.66
N-Pentane	2,371	4.7	1.26
Residue	102,174.5	19.7	.12
	112,900 bbl.	100.%	

Table C—Gauging Record

Date	Days	Breather Roof	
		Gauge Hatch	Thief Hatch
March 3	0	39'0" -64°	38'10⅝"-65°
March 31	28	39'1⅛"-72°	
May 13	71	39'4¼"-84°	39' 2⅝"-84°
		Cone Roof	
March 3	0	38'11¼"-64°	
May 13	71	39' 1⅝"-83°	

Table D—Comparative Losses

Tank	Contents in Bbls. at 60°F.	Losses by Gauging		Losses by Whitman Method	
		Bbls.	Percent	Bbls.	Percent
Breather	113,000	47	0.042	slight gain	
Cone	112,900	500	0.44	765	0.68

Table E—Savings and Payout Times

	Dollars per Month	Payout in Months	
		New Roof	Converting Cone Roof
Crude at $1.00 bbl.	248.00	2.7	14.1
Gasoline at $1.92	476.16	1.4	7.3

THE HORTONSPHERE
for 20 Lbs. pressure and up
THE HORTONSPHEROID
for 10 to 20 Lbs. pressure
THE RADIAL CONE TANK
for 5 to 10 Lbs. pressure
WIGGINS PONTOON ROOFS
for working storage tanks
WIGGINS BREATHER ROOFS
for standing storage tanks

CHICAGO BRIDGE & IRON WORKS

DALLAS.....1241 Burt Bldg.
HOUSTON.....2919 Main Street
TULSA.....1606 Thompson Bldg.
BIRMINGHAM.....1536 Fiftieth St., N.
CHICAGO.....2128 Old Colony Bldg.
DETROIT.....1514 Lafayette Bldg.
CLEVELAND.....2204 Rockefeller Bldg.
NEW YORK.....3347-165 Broadway Bldg.
PHILADELPHIA.....1615 1700 Walnut St. Bldg.
BOSTON.....1517 Consolidated Gas Bldg.
SAN FRANCISCO.....1054 Rialto Bldg.
LOS ANGELES.....1423 Wm. Fox Bldg.

Fabricating Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

Relative Service Value of Cracked and Leaded Gasolines of the Same Octane Number

By G. G. BROWN and S. C. SINGER, Jr.
University of Michigan

Octane number is an important characteristic of gasoline but a motor fuel cannot be correctly appraised on the basis of octane number alone. This was pointed out in an earlier paper[1] in which it was shown that a fuel of high octane number depends largely upon the manner in which the increased octane number is obtained, and that a gasoline of high octane rating may be actually inferior to a fuel of lower octane number.

Although the power output from the engine was substantially the same with fuels of equal octane numbers when used at the compression ratio for incipient knock, the work (mileage) obtained from a gallon of any particular fuel depended not upon its octane number but rather upon its chemical composition.

It was pointed out[1] that increased octane numbers obtained by blending ethyl alcohol actually decreased the value of the fuel even when used in higher compression ratio engines, while increasing the octane number by blending benzene or by adding tetraethyl lead enhanced the value of the gasoline.

Although we are threatened with alcohol blends and have used benzol blends, at present the two practical commercial sources for increasing the octane numbers of motor fuel are primarily cracking, including reforming, and the addition of lead tetraethyl.

Because cracking changes the chemical composition of the fuel, and the work or mileage obtainable from a gallon of gasoline depends upon its chemical composition rather than upon its octane number, cracked and leaded gasoline of the same octane numbers may be expected to give different results.

Fuels Used

The characteristics of the fuels used in this comparison are given in Table 1. These samples are commercial fuels obtained from commercial refinery operations of two different plants. Fuels 1, 2 and 3 represent the products made from different operations in one refinery. Samples 4 and 5 were obtained from a different refinery and represent respectively straightrun and cracked gasoline as produced from the same crude. Fuels 2T and 3T were prepared by adding ethyl fluid to the straightrun gasoline, 1, in the required amount to obtain gasoline having octane numbers approximately the same as the two cracked gasolines, 2 and 3. Fuel 5T was similarly prepared by adding ethyl fluid to the straightrun gasoline, 4.

Test Data

These fuels were run in the C.F.R. test engine, directly connected to an electric absorption dynamometer, at the compression ratio corresponding to incipient knock, and also at higher compression ratios at which the knocking became rather intense. The air-fuel ratio corresponding to maximum power at the compression ratio for incipient knock was used in all tests. Spark advance, mixture temperature and other operating conditions were the same as those specified for determining the A.S.T.M. octane number.

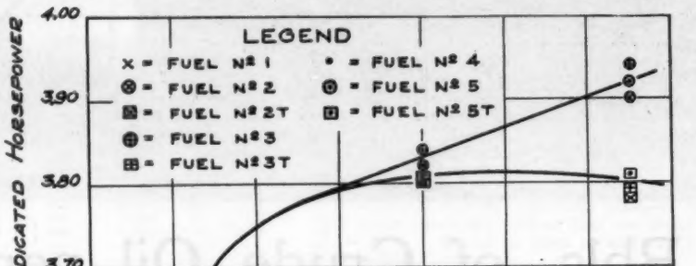
The results of this series of tests are given in Table 2.

In Figure 1 the corrected indicated horsepower is plotted as a function of the compression ratio for each of these fuels. It will be noted that fuels 1 and 4 (the two straightrun gasolines) develop their maximum power at a compression ratio which is about 0.25 greater than that giving incipient knock, and maintain this maximum power output for all higher compression ratios over the range covered.

The ethylized fuels, 2T, 3T and 5T, have much the same characteristics, in that they develop their maximum power output at a compression ratio about 0.5 greater than that for incipient knock, and maintain this maximum power output with only a slight loss as the compression ratio is increased to about 1 ratio higher than that for incipient knock.

The cracked fuels, 2, 3 and 5, on the other hand, continue to develop increasing power output as the compression ratio is increased above that giving incipient knock.

The relative indicated horsepower hours per gallon when each fuel is run at the compression ratio giving incipient knock, are given in Column 7 of Table 3. In every case when used at the compression for incipient knock, the cracked gasoline delivers more useful work per gallon than the leaded gasoline of equal octane number tested at the same compression ratio.



Power output as a function of compression ratio at constant air-fuel ratio

The differences are 1.3 per cent and 1.8 per cent in the case of fuels 2 and 5, respectively, but in the case of the cracked fuel 3, a gain of about 4.6 per cent in horsepower hours per gallon is shown over the leaded fuel of equal octane number.

The improvements noted in the use of the cracked fuels 2 and 5 over the corresponding leaded gasolines 2T and 5T are in close agreement with the average figure of 1.6 per cent reported by Hubner and Murphy[2] in a similar series of tests.

These results consistently and clearly indicate that cracked gasoline will deliver more useful work per gallon than leaded gasolines of the same octane number. Practically the same relative results are obtained with Fuels 2 and 5 as with the fuels used by Hubner and Murphy. When using cracked gasolines of higher octane numbers the relative advantages in favor of the cracked gasolines become more pronounced as indicated by the relative results obtained with Fuels 3 and 3T.

If fuels are to be used under knocking conditions as indicated by the higher compression ratios under which these fuels were tested, as reported in Table 2, the advantages in favor of the cracked gasoline become even more pronounced. As a basis of comparison, Table 3 has been prepared which shows the relative power output of the engine, and the relative indicated horsepower hours per gallon (miles per gallon) for fuels 2, 3 and 5 as compared with the corresponding leaded gasolines 2T, 3T and 5T.

In the summary of the work of Hubner and Murphy[2] it is stated that the advantage of the cracked gasoline appears to be chiefly due to the higher specific gravity of the cracked fuel which weighed about one-tenth of a pound more per gallon, an advantage of about 1.64 per cent, which approximates the advantages shown in miles per gallon for the cracked fuel. Although the higher specific gravity (lower A.P.I. gravity), without doubt is a major factor in the increased mileage obtained from the cracked

(Continued on Page 96)

[1] Brown, George G., and Sidney C. Singer, Jr., "More Than High Octane Value Required to Make Economical Motor Fuel," The Oil and Gas Journal, Vol 32, No. 39, pp. 14-16, Feb. 15, 1934.

[2] Hubner and Murphy, "Cracked and Leaded Grade Gasolines Compared," National Petroleum News, Vol. 26, No. 14, p. 21, April 4, 1934.

TABLE 1—MOTOR FUEL PROPERTIES

	Fuel* 1 Straightrun	2 Cracked	3 Cracked	4 Straightrun	5 Cracked	2T 1.25 cc. TEL per gallon of Fuel 1	3T 1.20 cc. TEL per gallon of Fuel 1	5T 1.90 cc. TEL per gallon of Fuel 4
Octane number	54	65	69	52	67	65	69	68
Grav. °A.P.I. (60°F.)	60.9	61.9	53.0	65.3	62.3	60.7	60.7	65.0
Comp. ratio for incipient knock.	4.35	4.44	4.53	4.34	4.50	4.44	4.50	4.47
	Degrees F.							
I.B.P.	106	97	96	96	85	106	106	97
5 per cent	143	139	136	131	118	144	150	134
10 per cent	163	146	157	150	138	163	167	152
30 per cent	190	173	191	180	170	190	192	180
30 per cent	212	200	222	202	195	212	212	202
40 per cent	230	224	253	222	220	231	232	222
50 per cent	248	246	280	240	241	248	250	239
60 per cent	267	261	309	259	263	259	270	259
70 per cent	290	286	331	279	283	291	291	280
80 per cent	315	306	353	302	308	315	315	302
90 per cent	344	337	374	331	344	345	344	330
95 per cent	365	363	388	356	378	372	369	354
Endpoint	396	373	400	366	378	392	391	366
Recovery	98.5	97.0	98.0	97.0	95.0	98.0	98.0	97.0

Barometer: 29.13 inches Hg.

*Fuels 1, 2, 3, 2T and 3T obtained from same source. Fuels 4, 5 and 5T obtained from same source.

TABLE 2—INDICATED HORSEPOWER AND FUEL CONSUMPTION OF CRACKED AND LEADED FUELS OF THE SAME OCTANE NUMBER

Mixture ratio for maximum power at incipient knock.
Mixture temperature 300° F.
Spark automatic.
Revolution per minute 900.

Fuel	Comp. ratio	Corrected I.H.P.	Lbs. fuel (hr.)	Gals. (hr.)	Observed I.H.P.	I.H.P. hrs. (gal.)
1	4.34	3.56	1.97	.321	3.43	10.54
	5.00	3.67	1.96	.324	3.54	10.91
	5.50	3.68	1.96	.324	3.54	10.92
4	4.34	3.53	1.94	.329	3.40	10.36
	5.00	3.62	1.95	.330	3.49	10.57
	5.50	3.62	1.94	.329	3.49	10.63
2	4.44	3.65	2.00	.333	3.52	10.57
	5.00	3.82	1.93	.321	3.68	11.47
	5.50	3.90	1.85	.308	3.76	12.21
2T	4.44	3.65	2.04	.338	3.52	10.43
	5.00	3.89	1.91	.316	3.85	11.60
	5.50	3.79	1.96	.324	3.66	11.30
3	4.47	3.68	1.98	.313	3.54	11.32
	5.00	3.84	1.97	.311	3.70	11.92
	5.50	3.94	1.97	.311	3.80	12.22
3T	4.47	3.68	1.98	.328	3.54	10.83
	5.00	3.81	1.97	.319	3.67	11.50
	5.50	3.79	1.96	.324	3.66	11.30
5	4.47	3.65	1.89	.315	3.52	11.16
	5.00	3.82	1.90	.317	3.68	11.62
	5.50	3.92	1.85	.309	3.78	12.24
5T	4.47	3.66	1.90	.322	3.53	10.96
	5.00	3.80	1.90	.322	3.66	11.38
	5.50	3.81	1.89	.320	3.67	11.47

Open Seven New Pools in Texas-Louisiana Gulf Coastal Division; Trend Is Toward Louisiana

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

In summarizing developments on the Gulf Coast for the first half of 1934, it can be stated briefly that the period was devoted largely to an intensive exploration for additional petroleum reserves. The active wildcatting program which has been going on for several years became even more widespread than before, covering not only the drilling of previous untouched or unproductive prospects and areas but also a concerted attempt to prove up potential lower horizons and new sources of oil in and around many of the shallow producing domes and fields.

Reflecting the increased and widespread wildcatting is the report of completions which reveals that although in the first six months of this year, compared with the preceding six months, there were 110 fewer wells drilled at Conroe, where during 1933 there was a concentration of activity, a decrease in the total number of wells drilled for the entire Gulf Coast was only 10. This indicates that outside of Conroe there were 100 more wells drilled on the Coast the first half of this year than there were in the last half of 1933, and it so happens that these were scattered over the entire district.

There were 787 wells drilled in the period mentioned with a combined rated initial production of 369,790 bbls. Of these 444 were oil wells, 314 dry holes and 29 gassers. In the same period in 1933, 787 wells were completed with a combined rated initial production of 841,738 bbls. Included in these were 574 oil wells, 205 dry holes, and 8 gassers. The higher percentage of abandonments and the smaller initial production for the first half of this year also are indications that more wildcatting was done as the higher initial production in the first six months last year was due largely to the greater number of wells completed in Conroe.

Production on the Gulf Coast for the first half of this year totaled 38,025,163 bbls. This was 3,850,402 bbls. above the output for the first six months of 1933. Production for the entire year of 1933 set an all-time record for the Gulf Coast, 34,174,761 bbls. being produced in the first half and 41,968,967 bbls. in the last half. The decrease this year has been due entirely to greater curtailment of field allowables under proration.

Trend Toward South Louisiana

Very conspicuous in all the reports was the trend toward Coastal Louisiana. For some time operators have been focusing more and more attention in that direction as a potential source of new production. For the most part Southern Louisiana offers more virgin or undeveloped prospects and acreage than any other section of the Gulf Coast, the bulk of previous development having taken place on the Texas side and in the extreme southwestern portion of Coastal Louisiana.

A very decided increase in drilling activity, production, geophysical exploration and leasing was felt in Coastal Louisiana during the first half of the year just closed. Whatever decreases are indicated for the Gulf Coast as a whole pertained only to the Texas Coast, these offsetting the gains shown by Coastal Louisiana. In the Louisiana portion of the Gulf Coast 150 wells were completed in the period as against 102 in the first half of 1933. Production in Coastal Louisiana totaled 9,111,207 as against 6,932,169 bbls. A total of more than 1,500,000 acres were leased since the first of the year representing an investment of more than $975,000 and if the rate of leasing activity keeps up, approximately 3,500,000 acres will have been placed under lease during the year in Coastal Louisiana. A large part of this leasing interest was along the Jackson or so-called Conroe trend, a strip about 25 miles wide running northeasterly through Beauregard, Vernon, Rapides and Avoyelles Parishes. However, considerable leasing activity was directed toward the salt dome portion of the area where several very deeply seated salt dome fields have been opened and where many others are believed to exist.

Possibly more geophysical work was done during the first half of the year both in Coastal Louisiana and Coastal Texas than at any other time in the history of the Gulf Coast. Throughout the six months it is estimated that at least $500,000 was spent monthly for the actual geophysical work alone not including the costs of geophysical blocks and options. At the opening of July there were a total of 117 geophysical crews working in various parts of the Gulf Coast of which 63 were in Coastal Louisiana and 54 were in Coastal Texas. In Coastal Louisiana the 63 crews were divided as follows: Torsion balance, 44; reflection, 16; refraction, 1; pendulum, 1; and magnetometer, 1. The 54 crews in Coastal Texas were divided as follows: Torsion balance, 32; reflection, 17; pendulum, 2; magnetometer, 2; and gravity meter, 1.

Seven New Pools

Of the seven new pools opened on the Gulf Coast during the first half of the year three, namely. Bosco and Roanoke in Louisiana and Van Vleck in Texas, were of the deeply seated salt dome type. The others were Splendora, Montgomery County, a "Conroe trend" field; Lake Hermitage, in Plaquemines Parish, a shallow salt dome; and Vanderbilt, Jackson County, and a so far unnamed field in Refugio County, which belong to the lower Gulf Coast group. Several other new fields were opened in the latter group but they are included in the Southwest Texas reports.

Bosco, located at the juncture of Acadia St. Landry, and Lafayette Parishes, and Roanoke, in Jefferson Davis Parish, so far have turned out of the most consequence. These fields, within 35 miles of each other on an east and west line across southern Louisiana, seem to be identical in general nature and have the

Gulf Coast
Texas

Daily Average and Monthly Production First Six Months of 1934

Pool and County—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
ALLEN, BRAZORIA:							
Daily average	10	10	10	10	10	10	
Month	319	277	315	302	307	311	1,831
ARRIOLA, HARDIN:							
Daily average	1,085	1,171	1,583	1,652	1,746	2,085	
Month	33,646	32,782	49,234	49,566	54,125	62,447	281,798
BARBERS HILL, CHAMBERS:							
Daily average	17,287	18,253	17,744	17,530	18,400	17,950	
Month	535,889	511,080	550,060	525,889	570,409	538,505	3,231,832
BATSON, HARDIN:							
Daily average	551	567	603	624	646	656	
Month	17,076	15,874	18,699	18,732	20,024	19,675	110,080
BIG CREEK, FORT BEND:							
Daily average	941	805	779	943	1,130	1,445	
Month	29,174	22,541	24,145	28,289	35,028	43,348	182,525
BLUE RIDGE, FORT BEND:							
Daily average	725	709	831	880	946	725	
Month	22,467	19,854	25,755	26,393	29,330	21,754	145,553
BRENHAM, AUSTIN-WASHINGTON:							
Daily average	31	35	29	29	27	27	
Month	970	982	902	870	840	822	5,386
BOLING, WHARTON, FORT BEND:							
Daily average	330	315	337	342	355	334	
Month	10,224	8,823	10,444	10,266	10,997	10,016	60,770
BUCKEYE, MATAGORDA:							
Daily average	3	67	194	296	328	258	
Month	96	1,873	6,009	8,858	10,167	7,749	34,782
CLAY CREEK, WASHINGTON:							
Daily average	696	708	716	760	695	731	
Month	21,569	19,821	22,201	22,789	21,548	21,927	129,855
CLEVELAND, LIBERTY:							
Daily average	438	236	155	140	127	122	
Mon.h	13,588	6,610	4,810	4,194	3,934	3,652	36,788
CONROE, MONTGOMERY:							
Daily average	52,867	48,464	48,227	50,045	53,036	52,616	
Month	1,638,879	1,356,995	1,495,026	1,501,356	1,645,057	1,578,488	9,216,401
DANBURY, BRAZORIA:							
Daily average	33	27	24	18	13	11	
Month	1,029	753	750	546	411	332	3,821
DAMON MOUND, BRAZORIA:							
Daily average	717	705	623	672	644	605	
Month	22,227	19,742	19,310	20,160	19,967	18,145	119,551
ESPERSON, LIBERTY:							
Daily average	863	1,164	1,255	1,314	1,244	1,245	
Month	26,744	32,590	38,902	39,429	38,561	37,347	213,573
FANNETT, JEFFERSON.							
Daily average	459	324	474	460	749	722	
Month	14,237	9,081	14,697	13,792	23,215	21,664	96,686
GOOSE CREEK, HARRIS:							
Daily average	3,281	3,189	3,367	3,579	3,398	3,627	
Month	101,713	89,294	104,375	107,384	105,342	108,805	616,914
GRETA, LIBERTY:							
Daily average	8,202	8,102	8,016	8,030	10,148	9,577	
Month	254,262	226,858	248,501	240,891	314,585	296,308	1,581,405
HANKAMER, LIBERTY:							
Daily average	1,000	996	1,000	998	993	1,002	
Month	30,988	27,888	30,992	29,940	30,786	30,063	180,657
HIGH ISLAND, GALVESTON:							
Daily average	6,477	7,373	7,635	7,584	7,616	7,502	
Month	200,779	206,420	236,688	227,526	232,994	225,062	1,329,469
HOCKLEY, HARRIS:							
Daily average	13	10	9	9	8	9	
Month	414	291	282	266	259	272	1,784
HULL, LIBERTY:							
Daily average	8,848	10,541	10,148	9,785	10,408	9,496	
Month	274,292	295,143	314,585	293,556	322,645	284,876	1,785,097
HUMBLE, HARRIS:							
Daily average	3,394	3,456	3,394	3,411	3,228	3,276	
Month	105,214	96,768	105,210	102,319	100,054	98,254	607,819
KEERAN, VICTORIA:							
Daily average	196	182	336	265	314	348	
Month	6,080	5,093	10,414	7,954	9,730	10,436	49,707
LIVINGSTON, POLK:							
Daily average	1,653	1,766	1,765	1,738	2,074	2,073	
Month	51,406	49,453	54,719	52,146	64,298	62,193	334,209
LOST LAKE, CHAMBERS:							
Daily average	195	198	200	190	192	185	
Month	6,040	5,540	6,211	5,693	5,953	5,547	34,984

(Continued on Next Page)

same characteristics as Iowa, located on the Calcasieu-Jefferson Davis Parish line and which is on a line with them.

The limits and possibilities of the Bosco Field are estimated to surpass those of Iowa. The discovery well at Bosco was Superior Oil Producing Co.'s No. 1 Hermandez, Section 34-8s-3e, Acadia Parish, drilled on a block of approximately 7,000 acres which had been acquired from the Pure Oil Co., the latter retaining one-half working interest. The well was completed in May flowing at the rate of 31½ bbls. pipe line oil an hour through a twelve-sixty-fourths-inch choke with pressure of 1,360 pounds. Production is through eight perforations in the 7-inch casing at 7,845-50 feet in an Oligocene sand. The hole previously had been drilled to a total depth of 8,916 feet into the Frio and had cemented 7-inch casing at 8,830 feet. The plug was not drilled and no screen was set for the test. A number of other different sands were encountered in the drilling and these will be tested by perforations in the casing at their respective depths when the occasion arises.

Due to lease obligations, locations were made immediately by the Superior company for six additional tests to be drilled simultaneously in an effort to prove up the block as quickly as possible. The tests were located in various parts of the large block in different directions from the discovery well.

One of the six wells started in this drilling program already has been completed as the second well of the field, this being located a mile east of the discovery well. Outlet for the production of the Bosco Field has been provided by Pure Oil Co. which has installed loading racks at Duson, approximately 5 miles south of the field on the Southern Pacific Railway.

The Roanoke Field

The Roanoke Field was opened in June by Shell Petroleum Corp.'s No. 1 Kratzer, located in Section 12-9s-4w. This well came in flowing at the rate of 47 bbls. an hour through an eighteen-sixty-fourths inch choke with pressure of 1,440 pounds on the tubing and 1,360 pounds on the casing. Gravity of the oil is 37 A.P.I. This is comparable to the gravity of the oil obtained in the Bosco Field. Production of the Kratzer well is from the sand at 8,665-82 feet, which is the deepest commercially productive sand on the Gulf Coast. This well is Shell's first test on the block which adjoins to the north the block now owned by the Humble Oil & Refining Co. on which over a period of several years a number of attempts have been made to prove up production.

Shell Petroleum Corp. has just completed a 3½-mile pipe line from the field to loading racks which have been constructed at a point on the Southern Pacific Railway 3½ miles south of the field.

Van Vleck Discovery

Van Vleck, a deeply seated salt dome type field, is located in Matagorda County, Texas. The discovery well, Skelly Oil Co.'s No. 1 Cobb, is in the M. Cummings Survey and was completed in March in 18 feet of sand at a total depth of 7,076 feet to which depth the hole was plugged back from an original total depth of 7,178 feet. The well came in making 7,800,000 feet of gas with approximately 200 bbls. of distillate daily. Pressure of the well is 2,575 pounds. So far no additional development has taken place at Van Vleck

A distillate well completed by the Steen Drilling Co. in June added another Conroe trend field to the Gulf Coast and while developments in the area have been somewhat disappointing, many operators are of the opinion that a field of importance eventually will be proved up. This well, located on the Texas Long Leaf Lumber Co.'s lease in the Walker County School Land Survey, is producing from sand at a total depth of 5,841 feet designated as being the equivalent of the Upper Cockfield sand of the Conroe Field. The well was originally drilled to a total depth of 6,055 feet where it showed salt water in what is known as the Conroe sand. Initial production was 30,000,000 feet of gas and approximately 94 bbls. of distillate with a pressure of 2,225 pounds on tubing and casing. The second test drilled by the Humble Oil & Refining Co., a mile north and a little east of the Steen well, missed production and drilled to a total depth of 6,238 feet where it was abandoned in salt water. While this limited the possibilities of any development in that direction, it did not kill the interest in the area as a whole and snce then locations have been made for three additional tests, two by Humble Oil & Refining Co. and one by Brown & Wheeler. The Brown & Wheeler well is approximately 2½ miles east and a little south of the Steen well.

The Splendora area is approximately 10 miles east of Conroe and about 9 miles west of the Cleveland Field which Gulf Production Co. opened late in December of 1933. There are operators who hold to the theory that Splendora and Cleveland comprise one large field, the Gulf discovery well marking the eastern limits and the Steen well the western limits.

It has been only within the last several weeks that Gulf Production Co. has brought in any additional production at Cleveland besides the discovery well, and the trend of the field has been somewhat speculative, with indications that the discovery well might have been a freak. However, the very recent completion of two wells has thrown a more favorable light on the area.

Pipe line connections with the Gulf's wells have been made by Magnolia Pipe Line Co., whose trunk line passes within a mile of the discovery well.

First Oil in Jackson County

The discovery well of the Vanderbilt Field in Jackson County, in the Lower Gulf Coast, was brought in during May, establishing the first oil production in that county. This well was Encio Gas Co.'s No. 1 Toney, Raymond Musquiz Survey, completed in a sand at 5,575-82 feet flowing initially at the rate of 22 bbls. of 33 gravity oil an hour through a three-sixteenths inch choke with pressure of 800 pounds. This well later showed a trace of water but at latest report this was choked back.

All holdings of the Encio Gas Co., including the block of approximately 2,000 acres, the producer and the two drilling wells, have been acquired within the last several weeks by the Phillips Petroleum Co. of Bartlesville, Okla.

Following completion of the discovery well a line was laid to Vanderbilt, where loading rack facilities were provided for the handling of the production.

On a torsion balance prospect 8 miles northeast of Refugio and 3 miles southeast of the Greta Field, Quintana Oil Co. brought in a wildcat producer late in June, opening another lower coastal pool. The well, located in the J. M. Swisher Survey, flowed initially at the rate of 1,000 bbls. daily from a sand at 5,569-75 feet. A half interest in the well and block is owned by Humble Oil & Refining Co. and already a pipe line connection has been made by the Humble Pipe Line Co. by a branch from its Refugio line.

Cockfield in Raccoon Bend

The proving up of Cockfield sand production at Raccoon Bend in Austin and Waller Counties has resulted in a new drilling development program there on the part of Humble Oil & Refining Co., the sole owner of the field. Opened in 1927, the field under restricted flow already has produced nearly 13,000,000 bbls. of oil from two Jackson sands, both in the Hockleyensis, one from 3,020 to 3,445 feet and the other from 3,350 to 3,545 feet. Several shallower sands have produced some gas.

Lake Hermitage Pool

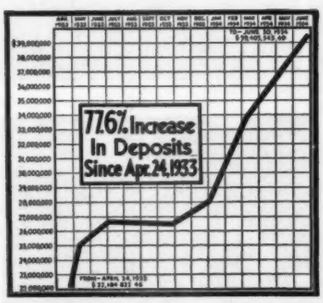
Lake Hermitage, a shallow geophysically located salt dome, in Section 12-18-25e, Plaquemines Parish, Louisiana, got its first production during June. However, the discovery well, owned by Gulf Refining Co., has not made much

Texas (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
LOUISE, WHARTON:							
Daily average	150	297	368	368	321	485	
Month	4,644	8,328	11,401	11,046	9,956	14,556	59,931
MANVEL, BRAZORIA:							
Daily average	1,774	1,960	1,989	1,983	1,985	2,011	
Month	54,991	54,886	61,650	59,491	61,532	60,326	352,876
McFADDIN-O'CONNOR, REFUGIO and VICTORIA:							
Daily average	157	185	246	295	315	329	
Month	4,881	5,183	7,629	8,840	9,763	9,868	46,164
MARKHAM, MATAGORDA:							
Daily average	708	597	599	684	1,182	1,271	
Month	21,942	16,720	18,571	20,527	36,643	38,132	152,535
MYKAWA, HARRIS:							
Daily average	167	127	537	612	394	398	
Month	5,177	3,559	16,645	18,356	12,212	11,938	67,887
NASH, BRAZORIA and FORT BEND:							
Daily average	42	40	33	37	31	37	
Month	1,308	1,124	1,025	1,111	954	1,106	6,628
NORTH DAYTON, LIBERTY:							
Daily average	138	134	133	128	111	142	
Month	4,274	3,748	4,120	3,840	3,443	4,264	23,689
ORANGE, ORANGE:							
Daily average	707	773	786	870	836	823	
Month	21,910	21,640	24,370	26,088	25,914	24,691	144,613
ORCHARD, FORT BEND:							
Daily average	1,496	1,382	1,282	1,182	1,051	1,395	
Month	46,370	38,720	39,745	35,463	32,584	41,852	234,734
PIERCE JUNCTION, HARRIS:							
Daily average	3,324	3,343	3,330	3,304	3,180	2,546	
Month	103,058	93,612	102,235	99,129	98,576	76,377	572,987
PLEDGER:							
Daily average	51	13	.....	.....	.....	.....	
Month	1,589	369	.....	.....	.....	.....	1,958
PORT NECHES, ORANGE:							
Daily average	1,082	1,421	1,619	1,638	1,568	1,462	
Month	33,531	39,781	50,185	49,137	48,610	42,889	265,133
RACCOON BEND, AUSTIN and WALLER:							
Daily average	3,502	3,532	3,506	3,664	4,350	4,370	
Month	108,562	98,891	108,681	109,917	134,848	131,101	692,000
REFUGIO, REFUGIO:							
Daily average	4,024	3,713	3,403	3,676	3,526	3,840	
Month	124,742	103,966	105,490	110,288	109,309	115,196	668,991
ROCKLAND, JASPER:							
Daily average	10	10	10	7	7	5	
Month	322	290	315	212	218	162	1,519
SARATOGA, HARDIN:							
Daily average	785	775	802	861	866	871	
Month	24,341	21,709	24,861	25,830	26,844	26,134	149,719
SOUR LAKE, HARDIN:							
Daily average	997	1,038	1,045	1,107	964	1,116	
Month	30,911	29,060	32,390	33,214	29,844	33,476	188,895
SOUTH LIBERTY, LIBERTY:							
Daily average	549	533	536	559	564	495	
Month	17,011	14,927	16,304	16,772	17,480	14,938	97,432
SPINDLETOP, JEFFERSON:							
Daily average	3,377	3,371	3,455	3,439	3,359	3,435	
Month	104,683	94,384	107,105	103,162	104,133	103,053	616,520
SUGARLAND, FORT BEND:							
Daily average	5,954	6,049	5,923	6,039	6,007	6,123	
Month	184,586	169,376	183,610	181,170	186,216	183,687	1,088,645
THOMPSON, FORT BEND:							
Daily average	11,711	11,662	11,708	11,752	11,785	11,899	
Month	363,046	326,533	362,954	352,566	365,324	356,974	2,127,407
TOMBALL, HARRIS:							
Daily average	1,695	2,244	2,356	2,359	2,507	2,325	
Month	52,546	62,835	73,011	70,777	77,719	69,746	406,634
WEST COLUMBIA, BRAZORIA:							
Daily average	2,599	2,598	2,676	2,948	3,622	2,955	
Month	80,566	72,740	82,962	88,436	112,283	88,649	525,636
COLETTO CREEK, VICTORIA:							
Daily average	.....	.....	.....	.....	2	2	
Month	.....	.....	.....	.....	69	57	126
RYE, POLK:							
Daily average	.....	.....	.....	45	16	17	
Month	.....	.....	.....	1,361	493	512	2,366
VAN VLECK, MATAGORDA:							
Daily average	.....	.....	.....	46	38	.....	
Month	.....	.....	.....	1,372	1,179	.....	2,551
VANDERBILT, JACKSON:							
Daily average	.....	.....	.....	.....	307	421	
Month	.....	.....	.....	.....	9,516	12,631	22,147
Daily average Texas Gulf Coast	155,299	155,173	155,790	158,908	167,317	165,710	159,746
Total Texas Gulf Coast	4,814,269	4,344,809	4,829,495	4,767,223	5,186,836	4,971,314	28,913,956
Same period 1933	3,906,389	3,531,284	4,432,143	4,441,456	5,649,173	5,281,147	27,242,593

(Continued on Next Page)

FULL CO-OPERATION WITH SOUND OIL ENTERPRISES



Deposits April 24, 1933 - - $22,184,822.46
Deposits June 30, 1934 - - $39,405,545.49

The National Bank of Tulsa is distinguished by its willingness to co-operate along reasonable lines with oil enterprises; and by a management that is thoroughly familiar with the financing problems of the industry. Today the supply of credit is ample for all sound purposes.

The resources and the facilities of this bank are available to those who meet its reasonable requirements, whether their business be large or small.

NATIONAL BANK OF TULSA

E. I. HANLON, *Chairman*

TULSA OKLA.

A. E. BRADSHAW, *President*

Capital and Surplus $8,000,000 Total Resources Exceed $45,000,000

Member Federal Reserve System

for Drilling, Pumping, Refining and Transporting!

ALLIS-CHALMERS motors, with their steel frames, triple impregnated windings and indestructible rotors, are working at every sort of job in connection with drilling, pumping and transportation. They include multi-rated, constant speed types for pumping and drilling, variable speed types, splash-proof motors, enclosed fan-cooled motors, explosion-proof motors and gearmotors, as well as standard general purpose types for driving pumps, compressors, etc.

Direct current electric drives for rotary drilling combine the desirable characteristics of the steam engine, the fineness of control of the direct current motor and the economies of the internal combustion engine.

Positive and flexible Allis-Chalmers Texrope drives are used on slush pumps, pipe line pumps, compressors and many other types of equipment.

Allis-Chalmers motor-driven centrifugal pumping units are used in every branch of the petroleum industry . . . gathering . . . pipe line pumping . . . refining.

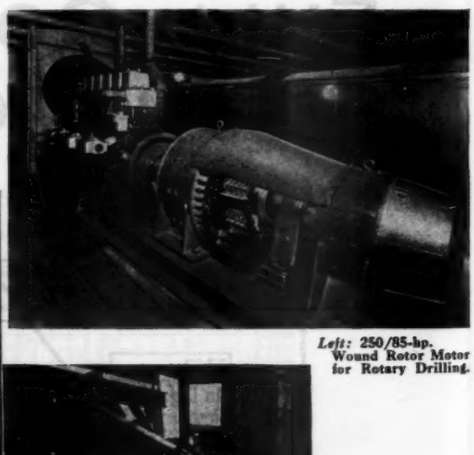
Rotary compressors of the multi-cellular sliding vane type are built for volumes from 50 to 2000 c.f.m. at pressures up to 150 lbs. They are used for low pressure air and gas lift and repressuring, for gas booster service and for air agitation work in refineries.

"Rannett" Centrifugal Pipe Line Pumping Unit, with Gasoline Cooled Motor.

Above: 75-hp. 900 r.p.m. Wound Rotor Motor and Texrope Single Reduction Unit.

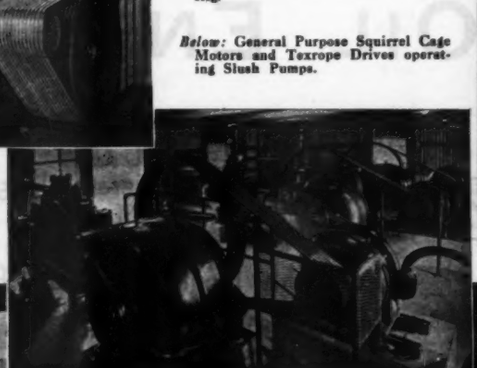
Right: Main Generator and Control Cabinets of D-C Electric Drilling Rig.

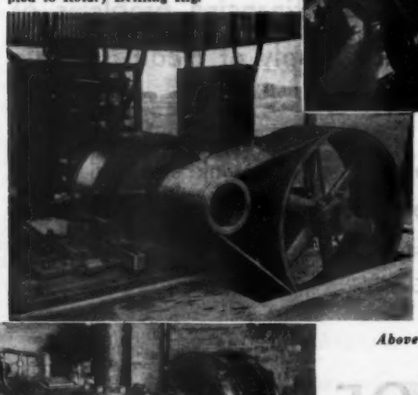
Below: General Purpose Squirrel Cage Motors and Texrope Drives operating Slush Pumps.

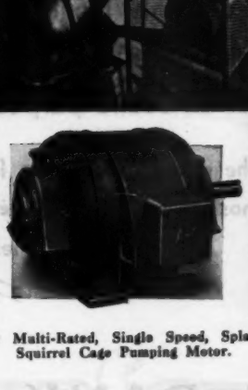


Left: 250/85-hp. Wound Rotor Motor for Rotary Drilling.

Below: Wound Rotor Motor, Single Reduction Unit and Texrope Drive coupled to Rotary Drilling Rig.







Above: Multi-Rated, Single Speed, Splash-proof Squirrel Cage Pumping Motor.

Motor-driven Rotary Air Compressor for Air and Gas Lift, Agitation of Oil, etc.

A-C OIL FIELD EQUIPMENT

Oil Well Countershaft Units
Motors and Control
Texrope V-Belt Drives
Pumps
Tractors
Air and Gas Compressors
Generators
Transformers
Vibrating Screens
Fuller's Earth Machinery
Power Plant and Electric Distribution Equipment
Industrial Machinery:
Crushing and Cement
Mining and Metallurgical
Flour Mill and Sawmill
Farm and Road
Timber Preserving
Coal Distillation
Boiler Treatment

Explosion-Proof Motor and Close Coupled Pump.

ALLIS-CHALMERS

Allis-Chalmers Manufacturing Company, Milwaukee

of a showing being good for only around 10 to 15 bbls. daily.

roe, and in sand at a total depth of 7,061 feet flowed at the rate of 43 bbls. an hour for four hours through a three-eighths inch choke with pressure of 450 pounds. The well quit flowing and when operators were unsuccessful in getting it back in, due, it is believed, to mechanical difficulties, the hole was plugged to a sand at 4,800 feet in which it was brought in for 25 bbls. an hour. This well definitely proved the Cockfield sand potentialities around the Sour Lake Dome and occasioned a very active lease and royalty play.

GULF COAST

Texas

Summary of Field Operations

Field, county—	Comp.	Prod.	Abd.	Gas
Arriola, Hardin	2	1,459	0	0
Barbers Hill, Chambers	30	16,799	7	0
Batson, Hardin	5	50	0	0
Big Creek, Fort Bend	7	579	3	0
Blue Ridge, Fort Bend	1	100	0	0
Boling, Wharton	1	0	1	0
Buckeye, Matagorda	2	0	2	0
Clay Creek, Washington	2	408	0	0
Cleveland, Liberty	5	1,300	4	0
Coletto Creek, Victoria	3	0	2	1
Conroe, Montgomery	129	176,668	9	3
Damond Mound, Brazoria	2	197	0	0
Danbury, Brazoria	1	0	1	0
Esperson, Liberty	7	1,261	0	0
Fannett, Jefferson	1	120	0	0
Garwood, Colorado	2	100	1	0
Goose Creek, Harris	17	2,429	9	0
Greta, Refugio	66	14,837	8	4
Hankamer, Liberty	1	0	1	0
High Island, Galveston	10	2,955	2	0
Hockley, Harris	1	0	1	0
Hull, Liberty	59	29,911	8	0
Humble, Harris	3	40	2	0
Keeran, Victoria	1	700	0	0
Liberty, Liberty	2	0	2	0
Livingston, Polk	25	7,360	9	1
Louise, Wharton	10	1,007	6	0
Manvel, Brazoria	21	4,130	12	1
Markham, Matagorda	1	440	0	0
McFaddin-O'Connor, Victoria-Refugio	8	115	4	2
Mykawa, Harris	4	2,040	0	0
North Dayton, Liberty	1	0	1	0
Orange, Orange	3	10	1	0
Orchard, Fort Bend	2	1,102	1	0
Pierce Junction, Harris	6	596	2	1
Pledger, Brazoria	2	0	1	1
Port Neches, Orange	3	660	0	1
Raccoon Bend, Austin	3	562	1	0
Saratoga, Hardin	10	321	1	0
Sour Lake, Hardin	1	0	1	0
Spindletop, Jefferson	1	200	0	0
Splendora, Montgomery	2	0	1	1
Sugarland, Fort Bend	1	0	1	0
Thompson, Fort Bend	20	10,934	5	0
Tomball, Harris	58	17,211	7	10
Vanderbilt, Victoria	1	500	0	0
Van Vleck, Brazoria	1	168	0	0
West Columbia, Brazoria	2	700	1	0
Miscellaneous	91	0	88	3
Total 1st. 6 mos., 1934	637	297,970	260	29
Total 1st. 6 mos., 1933	685	805,663	147	7
Difference	48	507,693	113	22

Louisiana

Bay St. Elaine, Terrebonne	4	30	3	0
Black Bayou, Cameron	2	1,095	0	0
Bosco, Acadia	1	829	0	0
Caillou Island, Terrebonne	2	3,664	0	0
Cameron Meadows, Cameron	8	3,444	1	0
Choctaw, Iberville	2	2,210	0	0
Darrow, Ascension	1	50	0	0
Dog Lake, Terrebonne	2	0	2	0
Edgerly, Calcasieu	4	200	3	0
Gueydan, Vermillion	1	0	1	0
Hackberry, Cameron	6	2,655	1	0
Iowa, Calcasieu, Jefferson Davis	19	16,540	3	0
Jennings, Acadia	2	385	0	0
Lake Barre, Terrebonne	6	3,125	4	0
Lake Pelto, Terrebonne	1	0	1	0
Leesville, Lafourche	29	26,686	5	0
Lockport, Calcasieu	5	950	3	0
Roanoke, Jefferson Davis	2	1,132	1	0
Port Barre, St. Landry	5	1,924	1	0
Serrento, Ascension	2	0	2	0
Starks, Calcasieu	2	0	2	0
Sulphur, Calcasieu	9	4,543	2	0
Sweet Lake, Cameron	0	0	0	0
Vinton, Calcasieu	18	2,338	3	0
White Castle, Iberville	1	0	1	0
Miscellaneous	16	20	15	0
Total 1st. 6 mos., 1934	150	71,820	54	0
Total 1st. 6 mos., 1933	102	36,075	58	1
Difference	48	35,745	4	1

Total Gulf Coast

First 6 months, 1934	787	369,790	260	29
First 6 months, 1933	787	841,738	205	8
Difference	0	471,948	55	21

Completions by Months

Month—	Comp.	Prod.	Abd.	Gas
January	146	76,183	36	7
February	105	38,972	46	6
March	133	63,324	44	4
April	108	54,155	24	4
May	165	82,848	56	3
June	130	54,278	54	5
Total	787	369,790	260	29

East Hackberry

On the northwest flank of East Hackberry, Union Sulphur Co. opened a new deep horizon by its No. 1 Barbee, which in a sand at a total depth of 7,598 feet, came in during February flowing 500 bbls. daily through a three-eighths inch choke with pressure of 815 pounds. At the time it was the deepest producer on the Louisiana coast. However, after several days the well went to water and finally quit and since then it has been deepened to a total depth of 7,986 feet.

A new deep producing horizon also was opened on the northeast flank of the same dome, this being by the Texas Co.'s No. 11-B State, which flowed initially around 600 bbls. of fluid, 80 per cent water, from sand at 6,078-92 feet. The well showed a pressure of 750 pounds on the tubing and 1,000 pounds on the casing. Previously two wells had been completed in a 7,400-7,500-foot horizon, and one in a 7,200-7,300-foot sand.

Production was extended a quarter mile westward and outward from the dome at Sulphur, Calcasieu Parish, in the completion by Union Sulphur Co. of its No. 1 Noble flowing 500 bbls. daily from sand at a total depth of 5,184 feet. This was the first test which the company had ever drilled off its fee property and previously all production and development had been confined to a very small area.

Deeper Sands Yield Oil

Among the old Gulf Coast salt dome fields in which new deep productive horizons were opened during the six months period were West Columbia, Sour Lake and Goose Creek. The latter is classed with the salt domes although no salt or cap rock has been drilled. At Raccoon Bend, a "Conroe Trend" Field, production which until now has been in the Hockleyensis division of the Jackson, was opened in the Cockfield, the producing horizon of Conroe and other fields which have been developed more recently along the trend. Important extensions and additions to deep sand production were made at East Hackberry, Sulphur, Manvel and several other fields, and at still others favorable showings and indications of additional new production were had.

Discovery of new deep production at Goose Creek was followed by an active drilling play. This was started late in December, 1933, when Gulf Production Co.'s No. 17-A Tabbs, located on the extreme northeast side of the field, was deepened from a former producing sand at 3,008 feet to a depth of 4,502 feet in an Oligocene sand, probably Heterostegina, where it was completed flowing 1,000 bbls. daily through a five-eighths inch choke.

A second old well was deepened to the sand by Gulf but this had a short flowing life and was put on the pump and has had to be worked over because of salt water. Sun Oil Co. then got a small well in an offset, but a test drilled by Heffner & Moore missed the sand and after going to 5,221 feet was abandoned.

In the meantime a test drilled by Miramar Oil Corp. on a seven and one-half acre lease obtained from Humble Oil & Refining Co. and located about 1,100 feet to the northwest of the Gulf's deep sand discovery well, in drilling to

(Continued on Page 104)

Louisiana

Daily Average and Monthly Production First Six Months of 1934

Pool and Parish—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
ANSE LA BUTTE, ST. MARTIN:							
Daily average	39	39	39	39	42	40	
Month	1,216	1,089	1,210	1,170	1,305	1,214	7,204
BLACK BAYOU, CAMERON:							
Daily average	900	978	883	934	1,563	1,393	
Month	27,889	27,383	27,367	28,013	48,451	41,787	200,890
CAILLOU ISLAND, TERREBONNE:							
Daily average	2,501	2,493	2,500	3,281	3,515	3,094	
Month	77,534	69,814	77,509	98,439	108,987	92,816	525,081
CAMERON MEADOWS, CAMERON:							
Daily average	359	508	794	1,077	1,855	1,750	
Month	11,129	14,220	24,609	32,312	57,503	52,502	192,275
CHOCTAW, IBERIA:							
Daily average	996	994	900	992	1,167	995	
Month	30,867	25,297	27,905	29,752	36,174	29,848	179,843
EDGERLY, CALCASIEU:							
Daily average	151	144	139	154	176	165	
Month	4,679	4,030	4,034	4,624	5,459	4,955	28,051
GUEYDAN, VERMILLION:							
Daily average	358	353	345	330	344	332	
Month	11,106	9,881	10,697	9,908	10,663	9,955	62,210
HACKBERRY (EAST), CAMERON:							
Daily average	4,537	4,618	3,825	4,956	4,725	4,654	
Month	140,629	129,300	118,578	121,689	146,476	139,622	796,305
HACKBERRY (OLD), CAMERON:							
Daily average	335	306	316	441	342	345	
Month	10,392	8,563	9,790	13,219	10,605	10,347	62,916
IOWA, JEFFERSON DAVIS:							
Daily average	11,770	11,440	11,712	12,768	13,695	14,135	
Month	364,874	320,316	363,084	383,044	424,542	424,053	2,279,913
JENNINGS, ACADIA:							
Daily average	846	873	844	790	816	1,660	
Month	26,315	24,446	26,160	23,692	25,298	49,878	178,689
LAKE BARRE, TERREBONNE:							
Daily average	5,844	5,363	4,501	4,617	4,499	3,848	
Month	181,179	150,160	139,532	138,502	139,467	115,441	864,281
LAKE PELTO, TERREBONNE:							
Daily average	42						
Month	1,303						1,303
LAKE WASHINGTON, PLAQUEMINES:							
Daily average	540	735	799	820	870	1,275	
Month	16,740	20,585	24,764	24,594	26,968	38,249	151,900
LEESVILLE, LA FOURCHE:							
Daily average	1,825	3,200	3,547	7,028	9,010	11,102	
Month	56,567	89,603	109,961	210,840	279,312	330,356	1,073,639
LOCKPORT, CALCASIEU:							
Daily average	1,956	1,897	1,509	1,864	1,960	1,884	
Month	60,629	53,112	46,775	49,928	60,764	56,524	327,732
PORT BARRE, ST. LANDRY:							
Daily average	2,212	2,108	2,147	2,163	2,067	1,922	
Month	68,569	59,020	66,551	64,888	64,075	57,658	380,759
SORRENTO, JEFFERSON DAVIS:							
Daily average	38	23	15	13	25	28	
Month	1,177	648	468	401	774	843	4,311
STARKS, CALCASIEU:							
Daily average	691	796	764	728	699	685	
Month	21,410	22,290	23,689	21,832	21,666	20,547	131,434
SULPHUR, CALCASIEU:							
Daily average	3,263	3,453	3,472	3,548	3,500	3,689	
Month	101,157	96,683	107,625	106,437	108,514	110,675	631,091
SWEET LAKE, CAMERON:							
Daily average	1,107	1,109	1,110	1,110	1,108	1,099	
Month	34,323	31,056	34,414	33,290	34,338	32,968	200,389
VINTON, CALCASIEU:							
Daily average	3,390	3,434	3,354	3,646	3,436	3,445	
Month	105,089	96,154	103,978	109,374	106,513	103,347	624,455
WELSH, JEFFERSON DAVIS:							
Daily average	40	31				45	
Month	1,244	864				1,348	3,456
WHITE CASTLE, IBERVILLE:							
Daily average	782	703	665	567	559	540	
Month	24,242	19,680	20,610	17,010	17,328	16,202	115,072
BOSCO, ACADIA:							
Daily average				53	802	827	
Month				1,594	24,861	24,813	51,268
LAKE HERMITAGE, PLAQUEMINES:							
Daily average				12	3	3	
Month				359	93	91	543
ROANOKE, JEFFERSON DAVIS:							
Daily average					221	978	
Month					6,852	29,342	36,194
Daily average Louisiana Gulf Coast	44,522	45,507	44,130	50,831	58,999	59,846	
First six months 1934	1,380,169	1,274,194	1,369,580	1,524,911	1,766,966	1,795,387	9,111,207
First six months 1933	1,102,184	949,993	1,059,482	1,253,076	1,286,922	1,250,561	6,932,169
TOTAL GULF COAST (TEXAS AND LOUISIANA):							
Daily average total Gulf Coast 1934	199,321	200,679	199,970	209,738	224,316	225,857	210,084
Total first six months 1934	6,194,438	5,619,903	6,199,075	6,292,144	6,953,802	6,766,701	38,026,163
Total firs. six months 1933	5,008,573	4,481,227	5,522,626	5,894,532	6,986,995	6,831,707	34,174,761
Total first six months 1932	4,178,761	3,722,628	3,988,104	4,003,141	4,415,809	4,244,365	24,551,304
Total first six months 1931	5,598,347	4,836,692	5,081,815	5,364,911	5,499,710	4,881,273	31,422,138
Total first six months 1930	5,881,489	5,619,270	6,105,265	5,980,987	6,181,740	6,214,648	35,983,479
Total first six months 1929	4,344,233	3,959,613	4,586,507	4,705,904	4,673,923	4,464,434	26,734,614
Total first six months 1928	3,796,856	3,452,360	3,796,516	3,760,253	4,165,544	4,114,796	23,276,495
Total first six months 1927	3,333,366	2,809,580	4,837,581	4,420,560	4,762,127	4,612,620	24,274,834
Total first six months 1926	2,923,877	2,820,698	3,024,583	2,842,950	3,203,721	2 849,970	17,779,499

Louisiana-Arkansas Division Had Busy Half Year In Field But No Important Oil Discoveries

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

The North Louisiana, Arkansas and Mississippi districts, comprising this division, showed a decided upward trend in drilling activities during the first six months of the year in comparison with the corresponding period of 1933. No new fields were uncovered as a result of the extensive wildcatting, but the number of tests in unproven territory have gradually increased since the first of the year, and at this writing, far exceed the active wells being drilled in the proven fields. There were no outstanding developments in any of the districts, the extension of the Rodessa gas field in the northwestern part of Caddo Parish, 1½ miles northeast, being the most important. An equally important development in the Rodessa area was the discovery of a series of gas bearing sands in the Trinity, below the Oolitic lime of the Glen Rose from which all previous wells had been producing. The shallow chalk rock field at Converse in Sabine Parish was further extended, but this was expected as the area was not fully developed at the end of 1933.

Not only are more wildcats being drilled throughout the division, but they are better financed so that more thorough tests may be made, and are also enabled to drill to the lower horizons where failures occur in the shallow sands. Due to increased activity on the part of major companies and the large independent operators, the majority of wildcat blocks, drilled or being drilled during the 1934 period, have had intensive geological and geophysical surveys prior to making the locations. This is in direct contrast to the methods pursued on the majority of wildcats in this division during the past two years during which time the small wildcatter has had little help from outside sources.

NORTH LOUISIANA

North Louisiana continues to be the most active district and shows an increase of 40 completions over the first half of 1933. There was a small gain in initial production, and, even with the larger number of completions, there were only 81 dry holes in comparison with 93 for the first six months of last year. The gas wells completed far exceeded the 1933 period, 27 to 12, and the combined initial flow was practically doubled.

The wildcatting has not been confined to any one or two parishes or localities, but has been general over the eight or nine parishes covered by the Sabine Uplift in the northwestern part of the State. The east and south flanks of this area have had more activity during the past six months than heretofore. Bienville and Lincoln Parishes on the east flank of the Sabine Uplift have had several scattered wells drilled during the past few months, but all of them were failures in the Blossom sand. This flank of the Sabine Uplift and the synclinal area between it and the abrupt Monroe Uplift to the east is a region of known thick sand bodies which should give oil fields of large per acre yield. The several tests drilled over this region have proven the presence of a widespread thick body of Blossom sand at relatively shallow depths, depending upon how far the location is from the high part of the Sabine Uplift and upon local structural conditions. Any adequate trapping structure on this east flank should produce a large yield per acre from a limited field. Three large blocks have been assembled in this area in Bienville Parish on which drilling operations must begin within 90 days.

DeSoto, Bossier and Natchitoches Parishes have led in wildcat operations during the past six months. In the former, a number of the tests were looking for shallow chalk rock production similar to the Converse Field to the south in Sabine Parish, but three wells drilled deeper in old proven areas resulted in one oil well and two gassers. In the old Noborton Field, northeast of Mansfield, Bailey Gaunce's No. 1 Jenkins, Section 35-13-12, was completed as a 6,000,000-foot gas well from 3,577 feet. Although not officially completed at this writing, S. J. Barber's No. 1 Tom Haton, Section 4-11-11, in the old Dolet Hills area, tested an estimated flow of 5,000,000 feet of gas from 2,734 feet. The Sunrise Oil Co.'s No. 1 B. Y. Wemple, Section 14-12-11, was a 75-bbl. pumper from 2,665 feet. This test is surrounded by dry holes, but its success has spurred up activities in that region, and a test was recently started by one of the major companies which will drill deeper than any well yet drilled in that vicinity. In Natchitoches Parish there has been quite a little activity in the Spanish and Black Lake areas north of the town of Natchitoches. In the vicinity of the former, several shallow gas wells were completed about two years ago, but an immense flow of salt water developed in each well to kill the gas flow. The area around Marthaville is getting in on the play with one wildcat drilling. A test in this vicinity, drilled below 4,000 feet a few years ago, had a good show of oil and gas. Numerous tests have been drilled in Bossier Parish, some in search of another shallow producing field from the Nacatoch such as Bellevue, and others drilling for Blossom or Woodbine production on carefully worked out geological and geophysical structures. Among the latter, was the Gulf Refining Co.'s failure to get Blossom production on a large block in the western part of the parish about 7 miles west of the town of Plain Dealing. This block consisted of about 12,000 acres and was checked with seismographic shots. Another good structure east of the town of Plain Dealing is now being developed, but the one test being drilled failed to get the Blossom pay as was expected.

NORTH LOUISIANA
Completions by Parishes, First Six Months 1934

	Comp.	Prod.	Dry	Gas*
Avoyelles	0	0	0	0
Bienville	1	0	1	0
Bossier	7	0	6	1
Caddo	20	86	7	8
Caldwell	0	0	0	0
Catahoula	0	0	0	0
Claiborne	3	31	1	1
Concordia	0	0	0	0
DeSoto	12	75	10	1
East Carroll	1	0	1	0
Grant	0	0	0	0
Jackson	1	0	1	0
Lincoln	1	0	1	0
Morehouse	3	0	0	3
Natchitoches	1	0	1	0
Ouachita	11	0	2	9
Rapides	1	0	1	0
Red River	3	0	3	0
Richland	1	0	0	1
Sabine	115	10,632	41	1
Tensas	1	0	1	0
Union	3	0	1	2
Vernon	0	0	0	0
Webster	3	50	2	0
Winn	1	0	1	0
Total	189	10,874	81	27

*Gas production: Bossier, 16,000,000 feet; Caddo, 135,500,000 feet; DeSoto, 6,000,000 feet; Claiborne, 1,300,000 feet; Morehouse, 29,900,000 feet; Ouachita, 15,100,000 feet; Richland, 41,500,000 feet; Sabine, 1,000,000 feet; Union, 30,850,000 feet; total, 277,150,000 feet.

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	26	2,935	10	4
February	34	1,531	13	4
March	40	3,091	20	2
April	24	850	11	2
May	31	1,445	17	1
June	34	1,022	10	14
Total	189	10,874	81	27

Sabine Parish

The Converse and Zwolle Fields in Sabine Parish were the only proven areas to have active drilling the first part of this year. The number of drilling rigs and completions have gradually declined in both fields since the first of the year, particularly in Converse. In the latter area, use of acid in the Annona chalk around the 1,900-foot level has been common practice resulting in initial production on an average of 50 to 75 bbls. per well. In the early part of the year, operators in the Converse Field began drilling into a sand underlying the Annona chalk, contacted around 2,000 feet, but with the exception of a few instances the sand failed to increase production over the chalk rock wells. The sand wells developed salt water in more or less quantities, a condition that had not developed in the chalk, and recent wells have been completed in the latter with the use of acid. Although the percentage of failures were higher in the Zwolle Field, the completed producers had a much higher initial flow than in Converse. The crevice condition in Zwolle seems to prevail more than in Converse, and a well is either a good producer or dry, depending upon whether a break in the chalk is encountered. The use of acid has been adopted in this area also, but not with the uniform success as in the Converse Field to the northwest.

Lower Trinity Series

The contemplated deep drilling to the lower Trinity series in the northwestern part of the Louisiana district did not develop to any great extent during the past six months. Only two wells of note were drilled in search of oil to this horizon and both of them were in proven gas or oil fields, previously producing from shallower depths. Although a failure as an oil well, one of the outstanding deep tests in this section was R. W. Norton's No. 1-B J. B. French, Section 34-23-16, in the Rodessa gas field in the northwestern part of Caddo Parish. This field, with a limited number of wells drilled on the structure, has produced for several years a highly saturated gas from the Glen Rose in the upper Trinity

North Louisiana

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CADDO (light):							
Daily average	4,615	4,611	4,510	4,533	4,704	4,713	
Month	143,065	129,108	139,810	135,960	141,120	141,360	830,423
CADDO (heavy):							
Daily average	1,392	1,455	1,584	1,625	1,577	1,547	
Month	43,152	40,740	49,104	48,750	47,310	46,470	275,526
CONVERSE:							
Daily average	1,152	1,111	1,352	1,388	1,512	1,519	
Mon.h	35,712	31,108	41,912	41,640	45,390	45,570	241,331
COTTON VALLEY:							
Daily average	533	549	540	564	559	556	
Month	16,523	15,372	16,740	16,920	16,770	16,680	99,005
DE SOTO-RED RIVER:							
Daily average	1,510	1,507	1,508	1,533	1,515	1,511	
Month	46,810	42,196	46,748	45,990	45,450	45,330	272,524
ELM GROVE:							
Daily average	344	339	348	351	360	357	
Month	10,664	9,492	10,788	10,530	10,800	10,710	62,984
HAYNESVILLE:							
Daily average	3,761	3,755	3,742	3,680	3,859	3,880	
Month	116,591	105,140	116,002	110,400	115,770	116,400	680,383
HOLLY:							
Daily average	202	196	141	186	185	197	
Month	6,262	5,488	4,371	5,580	5,550	5,910	33,161
HOMER:							
Daily average	2,806	2,820	2,612	2,645	2,655	2,906	
Month	80,786	72,360	80,972	79,350	79,650	87,180	48,298
PLEASANT HILL:							
Daily average	219	230	215	211	219	216	
Month	6,789	6,440	6,665	6,330	6,570	6,480	39,274
SAREPTA-CARTERSVILLE:							
Daily average	784	847	794	751	746	752	
Month	24,304	23,716	24,614	22,530	22,380	22,560	140,104
URANIA:							
Daily average	3,112	3,019	2,940	2,815	2,864	2,918	
Month	96,472	84,532	91,140	84,450	85,920	87,540	530,054
ZWOLLE:							
Daily average	7,327	7,827	6,893	5,827	4,926	4,580	
Month	227,447	219,436	213,683	174,810	147,780	137,700	1,120,856
Daily average	27,567	28,076	27,179	26,108	25,682	25,663	26,557
Total first six months 1934	854,577	786,128	842,549	783,240	770,460	769,890	4,806,844
Total first six months 1933	918,933	843,500	951,212	903,660	829,374	789,276	5,235,949
Total first six months 1932	897,395	824,412	866,636	869,580	916,802	895,440	5,269,165
Total first six months 1931	1,274,255	1,229,788	1,247,130	1,170,330	1,219,106	1,086,780	7,227,389
Total first six months 1930	1,168,554	1,138,396	1,271,465	1,258,500	1,226,701	1,200,630	7,259,246
Total first six months 1929	1,114,171	990,024	1,109,986	1,069,200	1,097,131	1,068,960	6,449,462
Total first six months 1928	1,369,146	1,312,555	1,369,115	1,411,890	1,383,034	1,272,040	8,116,780
Total first six months 1927	1,589,132	1,474,004	1,589,711	1,511,250	1,469,710	1,435,020	9,068,817

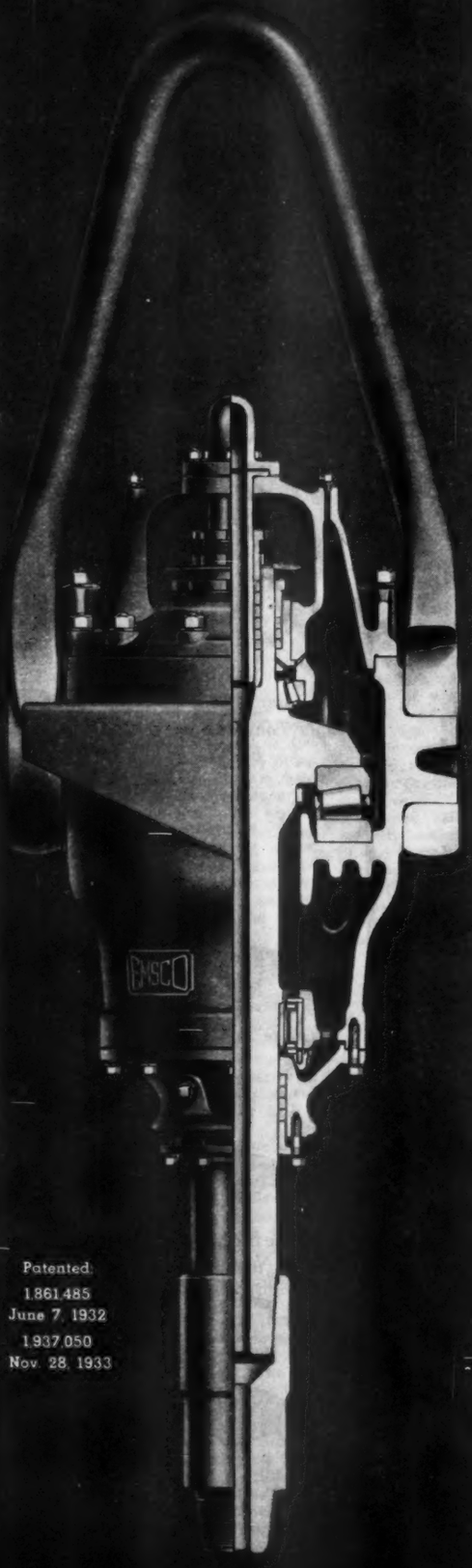
EMSCO

FACTOR OF SAFETY
4 to 1

150 TON SWIVEL

Safely AND *Easily*

HANDLES THE TREMENDOUS LOADS IMPOSED UPON THE SWIVEL IN MODERN DEEP WELL DRILLING . . .



Patented:
1,861,485
June 7, 1932
1,937,050
Nov. 28, 1933

The Emsco 150-ton Swivel has been especially designed for deep well drilling, and is capable of carrying the heaviest string of drill pipe with the greatest of ease.

The main cone bearing, designed especially for use in the Emsco 150-ton Swivel, is recognized throughout the oil fields as one of the greatest improvements made in swivel construction.

The perfectly aligned rotation of the sleeve in the housing, another important feature of the swivel, is accomplished by the use of a double Hyatt bearing below and a large Timken bearing above the main thrust bearing, insuring practically no wear and therefore perfect concentricity.

The large adjustable Timken upper bearing also acts as the upper thrust bearing and is capable of withstanding many times the load which may be imposed upon it under any drilling condition.

The simplicity of the wash pipe construction, an exclusive Emsco feature, necessitating no unscrewing for replacement due to the ground fit in the yoke, insures longer life of both wash pipe and packing.

Two stuffing boxes are all that require adjustment, and repacking is a very simple operation.

A large oil chamber with 53 gallon capacity and the patented automatic circulating system with expansion chamber and vents, quickly dissipates any heat generated by the continuous loading of the main bearing, packing, etc.

The successful and economical operation of the many Emsco 150-ton Swivels now in use in the deepest drilling fields of the world is the highest tribute that can be paid to their perfection of design and construction.

EMSCO DERRICK & EQUIPMENT COMPANY
6701-7101 South Alameda Street, Los Angeles, California, U. S. A.

All Emsco Machinery and D+B Products Sold Exclusively in Mid-Continent Fields by the Continental Supply Company.

All Emsco Derricks and Derrick Equipment Sold Exclusively in the Mid-Continent by Emsco Derrick & Equipment Company, Continental Building, Dallas, Texas.

Export Office: Continental Emsco Co., 19 Rector Street, New York City.

AMPLE TANGENTS

DISTRIBUTE BENDING STRESSES

SPEED UP WELDING TIME

● Some claim superiority for welding fittings because of uniform wall thickness . . . or perhaps for strengthened crotch design. But Crane Co. Welding Fittings have all these points of *quality* and many others. The best example of Crane *care in manufacture* is shown in the ample tangent or straight portion at the end of a Crane Fitting. This *extra* space permits reconditioning a fitting after a period of use . . . allows the tangent surfaces to be beveled clean. Ample space in which to work is likewise provided . . . welding time is reduced, piping work in general is faster.

All Crane Welding Fittings have true, round, machine-beveled ends. This speeds lining-up, gives the welder a clean, machined surface that insures perfect welds in a minimum of time. Center-to-center dimensions of Crane Welding Fittings are kept within rigid tolerances. Specify Crane Welding Fittings and Flanges for certain satisfaction . . . for superior results in welding and in service! Crane offers a wide range of welding valves, elbows, tees, bends, fittings and flanges—as well as accessories, all built to Crane standards.

CRANE

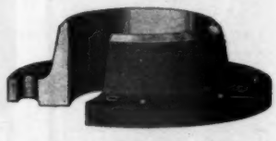
CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILL.

NEW YORK: 23 WEST 44TH STREET

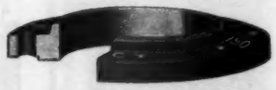
Branches and Sales Offices in One Hundred and Sixty Cities

Crane 90° Elbow Seamless Steel Welding Fitting

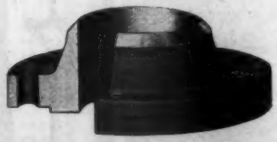
Crane 90° Elbow with Long Tangent on One End



Crane Forged Steel Welding Neck Flange—150 pound



Crane Slip-on Forged Steel Welding Neck Flange—150 pound



Crane Forged Steel Welding Neck Flange—400 pound

around the 5,600-foot level. The Norton well tested a likely looking core of oil sand from 6,527-34 feet, and could have made a small producer but the hole was deepened to 6,717 feet where casing trouble developed. The well was finally plugged back to 5,825 feet with perforated pipe up to 5,500 feet and completed at the former depth as a small gasser. The results of the test revealed to operators in that field that a series of gas bearing sands exists below the Oolitic lime from which formation all previous wells had been completed. Since the completion of the Norton well, two good gas wells have been brought in from the sand in the Rodessa area. The United Gas Public Service Co.'s No. 1 Sallie Dees, Section 28-23-16, had an initial flow of 64,000,000 feet from 5,850 feet, and the Arkansas-Louisiana Pipe Line Co.'s No. 1 Rodessa Land & Oil Co., Section 23-23-16, flowed 49,000,000 feet from sand at 5,626 feet. The latter well extended production 1½ miles northeast.

The second deep test in the Haynesville area met with more success than the first, but failed to have the initial production expected of a well to this depth. The Haynesville Partnership's No. 1 Anna Taylor, Section 11-23-8, was on the northern edge of the field just outside of Blossom production. The test contacted Oolitic lime in the Glen Rose around the 4,300-foot level and tested salt water with a show of oil from 4,379-4,408 feet. The well was finally completed as a 31-bbl. pumper from a total depth of 4,595 feet.

Five Gas Producing Sands

The Sligo Field in Bossier Parish which has been producing gas from the Nacatoch, Blossom and Woodbine sand for several years, completed a successful Trinity test during the early part of this year. The outstanding feature of the well, however, was an immense gas blowout, estimated at 40,000,000 feet, from the upper part of the lower Cretaceous between the Woodbine and Trinity at 3,220 feet. After setting casing to test this horizon, the well flowed by heads 60 bbls. of 42 gravity oil daily from 3,225 feet. The previous gas show was practically absent and it is thought that the gas sand was cut off by the casing. The test was completed as a 16,000,000-foot gasser from the upper Trinity at the total depth of 4,250 feet. Only one other Trinity well, drilled a few years ago, has been completed in this area, an average gasser with a show of oil. The results of the last test proves conclusively that this field has five gas producing sands, and a possible oil producing sand in either the Washita or Fredericksburg. There are also great possibilities for this area with deeper drilling into the lower Trinity.

ARKANSAS

Arkansas has been more active during the first half of this year than at any time in the past three years. Although not reflected by the number of completions in comparison with the first six months of 1933, wildcatting has been on the upward trend, and two proven areas have had constant drilling with a limited number of rigs.

Seven counties in the State have active wildcat rigs running at the present writing, but most of it is concentrated in the southwestern part in Miller and Lafayette Counties. The most likely successful test in this area was E. L. Young, trustee's No. 1 Patterson, Section 5-19-28, in the southwestern part of Miller County near the town of Bloomburg in East Texas. This well cut a 6-foot core, about 2 feet of which was sand bearing oil, from 3,649-55 feet. Seven-inch casing was set at 3,635 feet, but collapsed at 2,406 feet when bailing to test. The well has been junked and arrangements made to drill another in the immediate vicinity. The showing in this test has caused a hot play south of the old Balcones fault through Miller and Lafayette Counties and several wildcats are drilling or are rigging up to drill in that area. Union County has also experienced considerable wildcatting on the flanks of proven fields. One well, south of the old south field, failed to make a producer after a good showing and after treating with acid, the first well in Arkansas to be chemically treated to increase production.

The Miller County Field, east of Texarkana, completed six producers during the last six months for a total initial production of 1,390 bbls. All of the wells were inside the limited proven lines, no extensions of note being made. Several tests in the vicinity of production encountered salt water. The other active proven area was the Urbana Field in Union County. Inactive for practically two years and shut off from pipe line connections the greater part of that time, this field is running an average of 3,000 bbls. daily. The wells completed during the past six months were all pumpers from 75 to 200 bbls. daily.

ARKANSAS

Completion by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas
Arkansas	0	0	0	0
Ashley	1	0	1	0
Columbia	2	0	2	0
Conway	0	0	0	0
Hempstead	0	0	0	0
Jefferson	1	0	1	0
Lafayette	1	0	1	0
Lee	0	0	0	0
Little River	0	0	0	0
Lonoke	0	0	0	0
Miller	12	1,390	6	0
Nevada	0	0	0	0
Ouachita	3	20	2	0
Poinsett	0	0	0	0
Union	9	285	5	0
Woodruff	1	0	1	0
Yell	0	0	0	0
Total	30	1,695	19	0

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	6	0	6	0
February	6	785	2	0
March	3	50	2	0
April	5	100	4	0
May	1	0	1	0
June	9	760	4	0
Total	30	1,695	19	0

MISSISSIPPI

The completions in this State were about on a par with the first half of last year, but there was a noticeable decline in drilling in the Jackson gas field in Hinds and Rankin Counties. The number of wildcats drilling in this district did not increase to any perceptible degree, but this fact fails to reflect the preliminary exploration work that has been consistently carried on during the past six months. A number of geophysical crews, some of them sponsored by major companies, have been at work in that district, particularly in the southern part of the State. Numerous test wells have been drilled over a wide area on which no drilling reports or logs have been made public.

Two wildcat deep tests in Rankin County, one north of the Jackson Field and the other south, were both dry holes. Benedum & Trees' No. 1 Ascher, Section 35-4n-1e, was a junked hole at 5,725 feet, and their No. 1 Southern Development Co., Section 35-3n-1e, was dry and abandoned at 6,451 feet. Another wildcat in Wayne County, deeper than the usual tests, Wayne Oil Co.'s No. 1 Gavin School Land, Section 16-9n-7w, was abandoned as dry at 5,505 feet.

The deepest test drilled in the Mississippi district to date was started in January of this year and at this writing has not been completed. It is the United Gas Public Service Co.'s No. 1 Davis, Section 30-1n-5w, in Greene County. Sixteen-inch surface casing was set at 214 feet, 10-inch at 1,240 feet due to a caving hole and 7-inch at 5,200 feet. The well is drilling at a total depth of 7,100 feet.

MISSISSIPPI

Completion by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas*
Amite	0	0	0	0
Clarke	0	0	0	0
Franklin	0	0	0	0
Greene	0	0	0	0
Hinds	4	0	2	2
Issequena	0	0	0	0
Jones	0	0	0	0
Lamar	1	0	1	0
Madison	0	0	0	0
Marion	1	0	1	0
Newton	1	0	1	0
Pike	1	0	1	0
Rankin	5	0	4	1
Scott	1	0	1	0
Simpson	1	0	1	0
Tallahatchie	1	0	1	0
Walthall	0	0	0	0
Warren	0	0	0	0
Wayne	1	0	1	0
Wilkinson	1	0	1	0
Total	18	0	15	3

*Gas production: Hinds, 90,000,000 feet; Rankin, 40,000,000 feet; total, 130,000,000 feet.

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	3	0	3	0
February	3	0	3	0
March	1	0	1	0
April	4	0	2	2
May	3	0	3	0
June	4	0	3	1
Total	18	0	15	3

EAST TEXAS (BORDER COUNTIES)

This district showed a total of 10 completions with 15 bbls. initial production, seven dry holes and two gas wells. Most of the drilling was concentrated in Panola County in a small area northeast of Carthage where a small number of producing wells were drilled. All efforts to extend the limited producing area, or to consistently get wells in the immediate vicinity of those brought in, have failed.

Two wells, wildcats, in the northeastern part of Cass County, near Atlanta were both failures. Very few wildcats have been consistently active in any of the border counties for the past six months, nor since the extensive drilling campaign inaugurated in that area after the discovery of the East Texas Field.

EAST TEXAS (BORDER COUNTIES)

Completion by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas*
Cass	1	0	1	0
Harrison	0	0	0	0
Marion	0	0	0	0
Panola	8	15	5	2
Shelby	1	0	1	0
Total	10	15	7	2

*Gas production' Panola, 750,000 feet.

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	2	15	1	0
February	1	0	1	0
March	2	0	1	1
April	3	0	2	1
May	0	0	0	0
June	2	0	2	0
Total	10	15	7	2

ALABAMA

Completions by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas
Baldwin	1	0	1	0
Clarke	0	0	0	0
Houston	0	0	0	0
Lamar	0	0	0	0
Washington	1	0	1	0
Total	2	0	2	0

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	1	0	1	0
Total	2	0	2	0

NORTH BORNEO COMPANY

It was announced at the annual meeting of the British North Borneo Chartered Co. in London that the company had in view a perhaps even more important source of revenue than rubber, viz., oil.

The chairman said there was oil in payable quantities just south of the company's territory on both the east and west of the island, and so why should there not be oil in their territory? There had not yet been scientific exploration on a comprehensive scale. Active negotiations had been opened with the Anglo-Saxon Petroleum Co. and a new concession to that interest was on the point of completion, which would run for 75 years and cover the whole of the British North Borneo's territory.

It seemed reasonable, he said, to assume that the geological data were sufficiently encouraging to justify one of the most experienced bodies in the world in embarking upon a considerable amount of exploratory expenditure.

Arkansas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CHAMPAGNOLLE:							
Daily average	1,271	1,207	1,185	1,224	1,285	1,309	
Month	39,401	33,796	36,735	37,020	38,550	39,270	224,772
EL DORADO:							
Daily average	2,480	2,448	2,437	2,471	2,466	2,477	
Month	76,880	68,544	75,547	74,130	73,980	74,310	443,391
LISBON:							
Daily average	407	402	395	377	374	354	
Month	12,617	11,256	12,246	11,310	11,220	10,620	69,269
MILLER COUNTY:							
Daily average	911	968	1,233	892	837	818	
Month	28,241	27,104	38,223	26,760	25,110	24,540	169,978
NEVADA:							
Daily average	544	538	811	775	901	917	
Mon h	16,864	15,064	25,141	23,250	27,030	27,510	134,859
SMACKOVER (light):							
Daily average	2,546	2,485	2,477	2,419	2,388	2,426	
Month	78,926	69,580	76,787	72,570	71,640	72,780	441,983
SMACKOVER (heavy):							
Daily average	20,687	20,207	19,489	19,807	19,787	19,800	
Month	641,297	565,796	604,159	594,210	593,610	594,000	3,593,072
STEPHENS:							
Daily average	642	645	644	605	610	607	
Month	19,902	18,060	19,964	18,150	18,300	18,210	112,586
URBANA:							
Daily average	2,264	2,358	2,248	2,047	2,067	2,076	
Month	73,284	66,024	69,688	61,410	62,010	62,280	394,696
Daily average	31,852	31,253	30,919	30,627	30,695	30,794	30,854
Total first six months 1934	987,412	875,224	958,489	918,810	920,850	923,820	5,584,605
Total first six months 1933	993,457	880,208	948,702	909,120	928,667	901,770	5,566,924
Total first six months 1932	1,101,616	1,008,562	1,062,897	1,048,620	1,064,602	1,022,970	6,309,267
Total first six months 1931	1,574,955	1,402,492	1,469,345	1,412,220	1,446,274	1,344,450	8,649,736
Total first six months 1930	1,817,685	1,608,476	1,817,871	1,724,460	1,659,895	1,704,060	10,332,347
Total first six months 1929	2,453,536	2,154,194	2,393,734	2,188,680	2,220,158	2,112,270	13,432,572
Total first six months 1928	2,791,932	2,571,575	2,687,948	2,472,600	2,843,847	3,076,911	16,443,893
Total first six months 1927	4,076,469	3,574,265	3,858,920	3,378,240	3,492,669	3,369,760	21,749,324

AMPLE TANGENTS

DISTRIBUTE BENDING STRESSES

SPEED UP WELDING TIME

● Some claim superiority for welding fittings because of uniform wall thickness . . . or perhaps for strengthened crotch design. But Crane Co. Welding Fittings have all these points of *quality* and many others. The best example of Crane *care in manufacture* is shown in the ample tangent or straight portion at the end of a Crane Fitting. This *extra* space permits reconditioning a fitting after a period of use . . . allows the tangent surfaces to be beveled clean. Ample space in which to work is likewise provided . . . welding time is reduced, piping work in general is faster.

All Crane Welding Fittings have true, round, machine-beveled ends. This speeds lining-up, gives the welder a clean, machined surface that insures perfect welds in a minimum of time. Center-to-center dimensions of Crane Welding Fittings are kept within rigid tolerances. Specify Crane Welding Fittings and Flanges for certain satisfaction . . . for superior results in welding and in service! Crane offers a wide range of welding valves, elbows, tees, bends, fittings and flanges—as well as accessories, all built to Crane standards.

CRANE

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILL.

NEW YORK: 23 WEST 44TH STREET

Branches and Sales Offices in One Hundred and Sixty Cities

Crane 90° Elbow Seamless Steel Welding Fitting

Crane 90° Elbow with Long Tangent on One End

Crane Forged Steel Welding Neck Flange—150 pound

Crane Slip-on Forged Steel Welding Neck Flange—150 pound

Crane Forged Steel Welding Neck Flange—400 pound

around the 5,600-foot level. The Norton well tested a likely looking core of oil sand from 6,527-34 feet, and could have made a small producer but the hole was deepened to 6,717 feet where casing trouble developed. The well was finally plugged back to 5,825 feet with perforated pipe up to 5,500 feet and completed at the former depth as a small gasser. The results of the test revealed to operators in that field that a series of gas bearing sands exists below the Oolitic lime from which formation all previous wells had been completed. Since the completion of the Norton well, two good gas wells have been brought in from the sand in the Rodessa area. The United Gas Public Service Co.'s No. 1 Sallie Dees, Section 28-23-16, had an initial flow of 64,000,000 feet from 5,850 feet, and the Arkansas-Louisiana Pipe Line Co.'s No. 1 Rodessa Land & Oil Co., Section 23-23-16, flowed 49,000,000 feet from sand at 5,626 feet. The latter well extended production 1½ miles northeast.

The second deep test in the Haynesville area met with more success than the first, but failed to have the initial production expected of a well to this depth. The Haynesville Partnership's No. 1 Anna Taylor, Section 11-23-8, was on the northern edge of the field just outside of Blossom production. The test contacted Oolitic lime in the Glen Rose around the 4,300-foot level and tested salt water with a show of oil from 4,-379-4,408 feet. The well was finally completed as a 31-bbl. pumper from a total depth of 4,595 feet.

Five Gas Producing Sands

The Sligo Field in Bossier Parish which has been producing gas from the Nacatoch, Blossom and Woodbine sand for several years, completed a successful Trinity test during the early part of this year. The outstanding feature of the well, however, was an immense gas blowout, estimated at 40,000,000 feet, from the upper part of the lower Cretaceous between the Woodbine and Trinity at 3,220 feet. After setting casing to test this horizon, the well flowed by heads 60 bbls. of 42 gravity oil daily from 3,225 feet. The previous gas show was practically absent and it is thought that the gas sand was cut off by the casing. The test was completed as a 16,000,000-foot gasser from the upper Trinity at the total depth of 4,250 feet. Only one other Trinity well, drilled a few years ago, has been completed in this area, an average gasser with a show of oil. The results of the last test proves conclusively that this field has five gas producing sands, and a possible oil producing sand in either the Washita or Fredericksburg. There are also great possibilities for this area with deeper drilling into the lower Trinity.

ARKANSAS

Arkansas has been more active during the first half of this year than at any time in the past three years. Although not reflected by the number of completions in comparison with the first six months of 1933, wildcatting has been on the upward trend, and two proven areas have had constant drilling with a limited number of rigs.

Seven counties in the State have active wildcat rigs running at the present writing, but most of it is concentrated in the southwestern part in Miller and Lafayette Counties. The most likely successful test in this area was E. L. Young, trustee's No. 1 Patterson, Section 5-19-28, in the southwestern part of Miller County near the town of Bloomburg in East Texas. This well cut a 6-foot core, about 2 feet of which was sand bearing oil, from 3,649-55 feet. Seven-inch casing was set at 3,635 feet, but collapsed at 2,406 feet when bailing to test. The well has been junked and arrangements made to drill another in the immediate vicinity. The showing in this test has caused a hot play south of the old Balcones fault through Miller and Lafayette Counties and several wildcats are drilling or are rigging up to drill in that area. Union County has also experienced considerable wildcatting on the flanks of proven fields. One well, south of the old south field, failed to make a producer after a good showing and after treating with acid, the first well in Arkansas to be chemically treated to increase production.

The Miller County Field, east of Texarkana, completed six producers during the last six months for a total initial production of 1,390 bbls. All of the wells were inside the limited proven lines, no extensions of note being made. Several tests in the vicinity of production encountered salt water. The other active proven area was the Urbana Field in Union County. Inactive for practically two years and shut off from pipe line connections the greater part of that time, this field is running an average of 3,000 bbls. daily. The wells completed during the past six months were all pumpers from 75 to 200 bbls. daily.

ARKANSAS

Completion by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas
Arkansas	0	0	0	0
Ashley	1	0	1	0
Columbia	2	0	2	0
Conway	0	0	0	0
Hempstead	0	0	0	0
Jefferson	1	0	1	0
Lafayette	1	0	1	0
Lee	0	0	0	0
Little River	0	0	0	0
Lonoke	0	0	0	0
Miller	12	1,390	6	0
Nevada	0	0	0	0
Ouachita	3	20	2	0
Poinsett	0	0	0	0
Union	9	285	5	0
Woodruff	1	0	1	0
Yell	0	0	0	0
Total	30	1,695	19	0

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	6	0	6	0
February	6	785	2	0
March	3	50	2	0
April	5	160	4	0
May	1	0	1	0
June	9	760	4	0
Total	30	1,695	19	0

MISSISSIPPI

The completions in this State were about on a par with the first half of last year, but there was a noticeable decline in drilling in the Jackson gas field in Hinds and Rankin Counties. The number of wildcats drilling in this district did not increase to any perceptible degree, but this fact fails to reflect the preliminary exploration work that has been consistently carried on during the past six months. A number of geophysical crews, some of them sponsored by major companies, have been at work in that district, particularly in the southern part of the State. Numerous test wells have been drilled over a wide area on which no drilling reports or logs have been made public.

Two wildcat deep tests in Rankin County, one north of the Jackson Field and the other south, were both dry holes. Benedum & Trees' No. 1 Ascher, Section 35-4n-1e, was a junked hole at 5,725 feet, and their No. 1 Southern Development Co., Section 35-3n-1e, was dry and abandoned at 6,451 feet. Another wildcat in Wayne County, deeper than the usual tests, Wayne Oil Co.'s No. 1 Gavin School Land, Section 16-9n-7w, was abandoned as dry at 5,505 feet.

The deepest test drilled in the Mississippi district to date was started in January of this year and at this writing has not been completed. It is the United Gas Public Service Co.'s No. 1 Davis, Section 30-1n-5w, in Greene County. Sixteen-inch surface casing was set at 214 feet, 10-inch at 1,240 feet due to a caving hole and 7-inch at 5,200 feet. The well is drilling at a total depth of 7,100 feet.

MISSISSIPPI

Completion by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas*
Amite	0	0	0	0
Clarke	0	0	0	0
Franklin	0	0	0	0
Greene	0	0	0	0
Hinds	4	0	2	2
Issequena	0	0	0	0
Jones	0	0	0	0
Lamar	1	0	1	0
Madison	0	0	0	0
Marion	1	0	1	0
Newton	1	0	1	0
Pike	1	0	1	0
Rankin	5	0	4	1
Scott	1	0	1	0
Simpson	1	0	1	0
Tallahatchie	1	0	1	0
Walthall	0	0	0	0
Warren	0	0	0	0
Wayne	1	0	1	0
Wilkinson	1	0	1	0
Total	18	0	15	3

*Gas production: Hinds, 90,000,000 feet; Rankin, 40,000,000 feet; total, 130,000,000 feet.

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	3	0	3	0
February	3	0	3	0
March	1	0	1	0
April	4	0	2	2
May	3	0	3	0
June	4	0	3	1
Total	18	0	15	3

EAST TEXAS (BORDER COUNTIES)

This district showed a total of 10 completions with 15 bbls. initial production, seven dry holes and two gas wells. Most of the drilling was concentrated in Panola County in a small area northeast of Carthage where a small number of producing wells were drilled. All efforts to extend the limited producing area, or to consistently get wells in the immediate vicinity of those brought in, have failed.

Two wells, wildcats, in the northeastern part of Cass County, near Atlanta were both failures. Very few wildcats have been consistently active in any of the border counties for the past six months, nor since the extensive drilling campaign inaugurated in that area after the discovery of the East Texas Field.

EAST TEXAS (BORDER COUNTIES)

Completion by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas*
Cass	1	0	1	0
Harrison	0	0	0	0
Marion	0	0	0	0
Panola	8	15	5	2
Shelby	1	0	1	0
Total	10	15	7	2

*Gas production' Panola, 750,000 feet.

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	2	15	1	0
February	1	0	1	0
March	2	0	1	1
April	3	0	2	1
May	0	0	0	0
June	2	0	2	0
Total	10	15	7	2

ALABAMA

Completions by Counties, First Six Months 1934

	Comp.	Prod.	Dry	Gas
Baldwin	1	0	1	0
Clarke	0	0	0	0
Houston	0	0	0	0
Lamar	0	0	0	0
Washington	1	0	1	0
Total	2	0	2	0

Completions by Months, First Six Months 1934

	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	1	0	1	0
Total	2	0	2	0

NORTH BORNEO COMPANY

It was announced at the annual meeting of the British North Borneo Chartered Co. in London that the company had in view a perhaps even more important source of revenue than rubber, viz., oil.

The chairman said there was oil in payable quantities just south of the company's territory on both the east and west of the island, and so why should there not be oil in their territory? There had not yet been scientific exploration on a comprehensive scale. Active negotiations had been opened with the Anglo-Saxon Petroleum Co. and a new concession to that interest was on the point of completion, which would run for 75 years and cover the whole of the British North Borneo's territory.

It seemed reasonable, he said, to assume that the geological data were sufficiently encouraging to justify one of the most experienced bodies in the world in embarking upon a considerable amount of exploratory expenditure.

Arkansas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CHAMPAGNOLLE:							
Daily average	1,271	1,207	1,185	1,234	1,285	1,309	
Month	39,401	33,796	36,735	37,020	38,550	39,270	224,772
EL DORADO:							
Daily average	2,480	2,448	2,437	2,471	2,466	2,477	
Month	76,880	68,544	75,547	74,130	73,980	74,310	443,391
LISBON:							
Daily average	407	402	395	377	374	354	
Month	12,617	11,256	12,245	11,310	11,220	10,620	69,268
MILLER COUNTY:							
Daily average	911	968	1,233	892	837	818	
Month	28,241	27,104	38,223	26,760	25,110	24,540	169,978
NEVADA:							
Daily average	544	528	811	775	901	917	
Mon h	16,864	15,064	25,141	23,250	27,030	27,510	134,859
SMACKOVER (light):							
Daily average	2,546	2,485	2,477	2,419	2,368	2,436	
Month	78,926	69,580	76,787	72,570	71,040	73,080	441,963
SMACKOVER (heavy):							
Daily average	20,687	20,207	19,489	19,807	19,787	19,800	
Month	641,297	565,796	604,159	594,210	593,610	594,000	3,593,072
STEPHENS:							
Daily average	642	645	644	605	610	607	
Month	19,902	18,060	19,964	18,150	18,300	18,210	113,586
URBANA:							
Daily average	2,364	2,358	2,248	2,047	2,067	2,076	
Month	73,254	66,024	69,688	61,410	62,010	62,280	394,696
Daily average	31,852	31,258	30,919	30,637	30,695	30,794	30,854
Total first six months 1934	987,412	875,224	958,489	918,810	920,850	923,820	5,584,605
Total first six months 1933	993,467	880,208	942,702	909,120	928,667	901,770	5,556,924
Total first six months 1932	1,101,616	1,008,562	1,062,897	1,044,620	1,064,603	1,032,970	6,309,267
Total first six months 1931	1,574,985	1,402,493	1,469,845	1,412,520	1,446,274	1,344,450	8,649,567
Total first six months 1930	1,817,685	1,608,376	1,817,871	1,734,480	1,859,895	1,704,060	10,332,247
Total first six months 1929	2,453,528	2,154,194	2,302,734	2,188,680	2,220,158	2,113,370	13,432,662
Total first six months 1928	2,791,932	2,571,575	2,687,948	2,472,600	2,843,847	3,075,911	16,443,803
Total first six months 1927	4,076,469	3,574,245	3,853,920	3,378,240	3,493,669	3,365,780	21,742,314

Kansas Records Highest Production Since 1918 and Opens Several Pools in the Half Year

By JAMES McINTYRE

While only four pools that may be ranked as important were opened in Kansas in the first half of 1934, it was not because Kansas operators were laggard in their endeavors. A total of 382 wells were completed in the six months' period, or 142 more than in the first half of 1933 and 152 more than in the first half of 1932 and 126 more than in the same period of 1931, so the results indicate that it was the busiest first half since 1930 when 514 wells were finished.

The initial production, 137,035 bbls., represented an average of 506 bbls. per oil well. Back in 1926 when the first half of the year saw the completion of 1,209 wells of which 765 were oil wells the initial production of 88,401 bbls. the average initial output was only 128 bbls. per oil well. This year's crop of oil wells rated high in initial production, partly because so many of them were completed in lime formations, Hunton, Viola or Siliceous, which were given large doses of acid, a treatment not used in Kansas as far back as 1926. Acidization of wells by the process now in use began in 1932 and was not long in reaching Kansas with its large number of limestone oil formations in the central and western counties.

Wildcatters Were Active

Wildcatting in the State was unusually active, but with the usual result of many dry holes and few producers. In the course of the six months 37 wildcat failures were recorded. They were scattered through Woodson, Greenwood, Butler, Sedgwick, Harvey, McPherson, Kingman, Clay, Sumner, Rice, Phillips, Russell, and Ellis Counties. The wells were drilled to depths ranging from 1,515 feet in Woodson County to 4,705 feet in Sumner County and they averaged 3,721 feet per well, 119,171 feet of hole having been drilled in the 37 tests.

Against this were the 10 wells that showed oil, and four of which in Rice, McPherson, Russell and Reno Counties, opened what may be called pools of some importance which have been named the Russell Pool in Township 12-13w, Russell County, opened by Tom Palmer; Graber Pool, in Township 21-1w, McPherson County; Genessee Pool, in Township 18-8w, in Rice County, and Hilger Pool, in Reno County.

Highest Production Since 1918

The production of Kansas in the first half of the year totaled 22,462,228 bbls., as against 19,257,576 bbls. in the same period last year. It shows a gain of 3,204,652 bbls. It also represented an increase of 5,369,684 bbls. over the crude oil output of the same period in 1932. No similar period in the eight years listed at the bottom of the accompanying production table for the State came anywhere near producing as much oil as in the first six months of this year. No year since 1918 when the State produced 45,451,000 bbls., or an average of 124,523 bbls. per day, has Kansas produced as high a daily average crude output as in the past six months, and in no time in its history was its potential production as high as it was this year. When it is remembered that Kansas has been producing oil since 1889 and that it has produced more than 1,000,000 bbls. every year since 1904 it is remarkable that it has taken 30 years of intensive development, a vast store of money expended in wildcatting through those years to bring the State to its present eminence as an oil producer.

The difference between the record of 1918 and that of 1934 is that one great field, Augusta-Eldorado, with its many pools, was largely responsible for the big production of that year, while this year the production also scattered in the counties of Cowley, Sumner, Sedgwick, Harvey, McPherson, Rice, Marion, Reno, Ellsworth, Kingman, Russell, Stafford, Barton, Ellis, and Rooks, which have been added to the counties producing oil, are contributing more or less to the output this year.

The great Butler County Field (Augusta-Eldorado), produced 3,688,072 bbls. in the first six months of this year, but the leading field was McPherson County which contributed 5,166,469 bbls. to the total. Sedgwick County produced 1,327,588 bbls.; Greenwood, 2,149,057 bbls.; Harvey, 2,080,479 bbls.; Reno, 840,210 bbls.; Rice, 1,604,889 bbls.; Russell, 1,133,916 bbls., and Ellis 587,946 bbls., a total of 18,578,626 bbls., or nearly 83 per cent of the total production of the State.

Big Increase in Revenue

The value of the production was an important item in the results attained in Kansas this year. The weighted average gravity of Kansas crude is no less than 37 degrees. Some authorities figure it a degree higher than that. But settling on 37 degrees for the sake of making a comparison, this year's production of 22,462,228 bbls. had a value of $1.02 per barrel, or $22,911,472.56. What a contrast with last year when 19,257,652 bbls. at 44 cents per barrel brought the producers and royalty owners a gross income of $8,473,333.44. This year's gross value was $14,438,139.12 more than in the same period last year. As the producers had been enjoying the relatively high price of crude from late in September, 1933, to the close of the year and felt assured they would continue to enjoy it for several months more, they had courage enough to begin the big operating campaign that resulted in the completion of 382 wells and the discovery of more pools.

New Pool in Russell County

In the middle of February, Tom Palmer brought in a good well on a wildcat location in Russell County. It was No. 1 Steinle, NW cor. SW Section 22-13-14w. Siliceous lime was found at 3,283-86 feet and the well filled 2,000 feet with oil. It was completed about the first of March after having been put on the pump and produced 1,089 bbls. in 24 hours. This new area was named the Russell Pool.

The discovery well was drilled on a

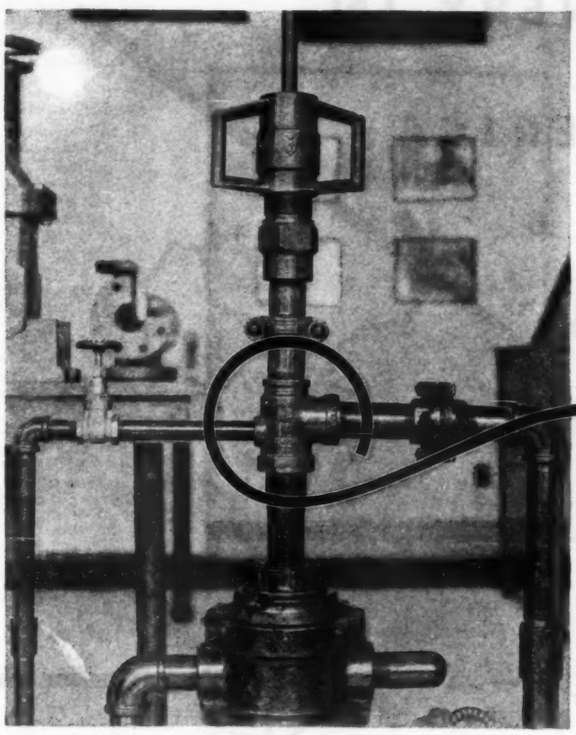
Kansas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
SEDGWICK COUNTY:							
Wright—							
Daily average	1,870	1,895	2,138	2,225	2,232	2,226	
Month	57,970	53,060	66,278	66,750	69,192	66,780	380,030
Greenwich—							
Daily average	1,904	2,469	2,832	3,144	2,840	2,957	
Month	59,024	69,132	87,792	94,320	88,040	88,710	487,018
Robbins —							
Daily average	545	468	470	398	392	404	
Month	16,895	13,104	14,570	11,940	12,152	12,120	80,781
Eastborough—							
Daily average	1,173	1,362	1,436	1,501	1,400	1,414	
Month	36,363	38,136	44,516	45,030	43,400	42,420	249,865
Miscellaneous—							
Daily average	643	676	694	832	700	763	
Month	19,902	18,928	21,514	24,960	21,700	22,890	129,894
MARION COUNTY:							
Florence-Urschel—							
Daily average	134	112	142	115	140	128	
Month	4,154	3,136	4,402	3,450	4,340	3,840	23,322
Peabody—							
Daily average	297	271	283	267	275	269	
Month	9,207	7,588	8,773	8,010	8,525	8,070	50,173
Covert-Sellers—							
Daily average	312	348	346	291	329	298	
Month	9,703	9,744	10,736	8,730	10,199	8,940	58,042
Lost Springs—							
Daily average	244	223	301	294	388	307	
Month	7,564	6,244	9,331	8,820	12,028	9,210	53,197
Davis—							
Daily average	360	348	337	540	444	452	
Month	11,160	9,744	10,447	16,200	13,764	13,560	74,875
BUTLER COUNTY:							
Elbing—							
Daily average	1,085	1,182	1,218	1,273	1,275	1,262	
Month	33,635	33,096	37,758	38,190	39,525	37,860	220,064
Potwin—							
Daily average	749	816	679	656	865	829	
Month	23,219	22,848	21,049	19,680	26,815	24,870	138,481
South Augusta—							
Daily average	1,047	1,008	1,134	1,133	1,219	1,184	
Month	32,457	28,224	35,154	33,990	37,789	35,520	203,134
North Augusta—							
Daily average	933	1,004	1,105	1,124	1,102	1,090	
Month	28,923	28,112	34,255	33,720	34,162	32,700	191,872
Towanda—							
Daily average	2,211	2,191	2,120	2,278	2,319	2,314	
Month	68,541	61,348	65,720	68,340	71,889	69,420	405,258
Cameron-Robinson—							
Daily average	392	361	382	368	345	360	
Month	12,152	10,108	11,842	11,040	10,695	10,800	66,637
Sluss-Smock—							
Daily average	265	262	241	262	244	251	
Month	8,215	7,336	7,471	7,860	7,564	7,530	45,976
Nuttle-Koogler—							
Daily average	2,612	2,763	2,774	2,739	2,694	2,702	
Month	80,972	77,364	85,994	82,170	85,314	81,060	491,074
Wilson-Dunkle—							
Daily average	1,225	1,242	1,324	1,248	1,332	1,316	
Month	37,975	34,776	41,044	37,440	41,292	39,480	232,007
Eldorado—							
Daily average	5,359	5,542	5,504	5,511	5,403	5,410	
Month	166,129	155,176	170,624	165,330	167,493	162,300	987,052
Leon-Weaver—							
Daily average	2,281	2,325	2,321	2,319	2,230	2,211	
Month	70,711	65,100	71,951	69,570	69,130	66,330	412,792
Fox-Bush—							
Daily average	723	686	666	687	666	671	
Month	22,563	19,208	20,646	20,610	20,646	20,130	123,803
Douglass—							
Daily average	228	167	177	168	179	170	
Month	7,068	4,676	5,487	5,040	5,549	5,100	32,920
Keighly—							
Daily average	271	238	242	269	259	247	
Month	8,401	6,664	7,533	8,070	8,029	7,410	46,107
Benton—							
Daily average	24	12	18	19	19	18	
Month	744	336	558	570	589	540	3,337
Blankenship—							
Daily average	485	468	482	491	492	483	
Month	15,035	13,104	14,942	14,730	15,252	14,490	87,553

(Continued on Next Page)

AN IMPORTANT *New Link* IN PUMPING WELL HOOK-UPS



THE JARECKI *Pumping Tee*

A Jarecki Assembly

The entire assembly shown above is made up of JARECKI products and includes the following well known items:

JARECKI ERIE IMPROVED STUFFING BOX WITH WOBBLER ATTACHMENT

●

JARECKI PUMPING TEE FOR UPSET TUBING

●

JARECKI BRASS GATE VALVE

●

JARECKI THREE-PIECE GROUND JOINT FLANGE UNION

●

JARECKI MALLEABLE FITTINGS

●

JARECKI CASING HEAD

● That the JARECKI PUMPING TEE greatly simplifies the hooking up of pumping wells is proved by the quick success it is achieving.

● Forming a connection between tubing, flow line and stuffing box, this malleable iron fitting eliminates swage nipples, sub-nipples and bushings. It is threaded to screw directly to a plain or upset tubing, flow lines and stuffing box. A 1-inch bleeder connection is also provided.

● Like all Jarecki Fittings, the Pumping Tee is generously "oversize" in strength and sturdiness—having *three times* the weight and strength of the standard malleable tees generally used. It withstands with equal success the stresses of vibration, the weight of long sucker rod strings when being pulled or run in, and the weight of improperly supported flow lines.

● The standard malleable fitting band around stuffing-box thread allows use of threadless or clamp-type hinged bell nipples. All outlets of the Tee are marked with pipe-thread sizes to eliminate confusion.

● *We advise a trial of this new tee. Call at the nearest Jarecki store or write our Tulsa office.*

Jarecki
MANUFACTURING COMPANY

General Offices—St. Louis, Mo. Home Office and Factory—Erie, Pa., U. S. A.
Branch Stores at all important places in the Oil Country.
District Offices { Pittsburgh, Pa.; El Dorado, Kans.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

IF *Yours* WERE THE ONLY REFINERY IN AMERICA

You wouldn't have to worry about yield, operating costs or obsolete equipment. You could simply price your products at figures that would show you a profit.

But, when you are selling a product competitively, you can't get your profit by increasing your selling price. Your only way to get more profit dollars is to take them out of production costs—and you can do it with efficient equipment.

Lummus designs and builds equipment of greater earning power—equipment that will increase your profits by lowering your costs. That is the basis upon which it is designed—and sold. Performance guarantees are determined, and proved, in the Lummus Research Laboratory, a 100 barrel per day distilling unit—before the purchaser signs a contract for the construction of a new plant or the modernizing of an old one.

It will pay you to investigate the earning power of Lummus equipment.

THE LUMMUS COMPANY · 50 CHURCH STREET, NEW YORK, N. Y.

LUMMUS

PETROLEUM REFINING PLANTS

block of 1,600 acres owned entirely by Mr. Palmer. It was part of an old block owned by the Prairie Oil & Gas Co., and on which that company paid rentals for 10 years, and then renewed the leases. After the consolidation of the Sinclair and Prairie companies the block was surrendered, and Palmer got a part of it. It had been originally purchased on surface geology. Palmer, after the completion of his well, received numerous offers for parts of the block.

Hartman and others, in a wildcat test, No. 1 Jones, Section 19-25-1w, Harvey County, drilled to 2,924 feet, and then plugged back to 2,912 feet and acidized the pay and the well started at 118 bbls. a day, with 35 bbls. of water accompanying the oil.

Ashby and others' No. 1 Polycyn, NE cor. SE Section 12-13-16w, Ellis County, was carried on the reports as a wildcat, but it was an old well which had been plugged back from 3,440 feet to a pay at 3,101-03 feet and acidized. It responded with a 100-bbl. initial production of oil and 35 bbls. of water.

Promising Well Was Disappointment

D. Lauck and the Shoreline Oil Co. created a sensation about the first of April when their test, No. 1 Jordan, NW SW SE Section 6-28-1w, uncovered the Wilcox sand at 3,652 feet and the hole filled with oil. While the owners were preparing the well for completion one of the wildest scrambles for leases and royalties in the history of Sedgwick County took place. Favorite trends were played and acreage surrounding the well was purchased in an ever widening radius. When the well flowed 166 bbls. of oil and 140 bbls. of water with the Wilcox penetrated only 12 inches, a wet blanket was thrown on the leasing and royalty campaign. It was fine for the farm owners with acreage to sell, but hard on the speculators and investors. The poor showing in the discovery well did not deter others from drilling and a number of tests were started offsetting and otherwise near the well.

KANSAS

Summary of Wells Completed First Six Months 1934

County—	Comp.	Prod.	Dry	Gas
Barton	6	1,660	3	0
Butler	18	447	10	0
Chautauqua	4	35	2	0
Cowley	12	278	5	3
Ellis	7	750	0	0
Elk	6	208	0	1
Geary	1	0	1	0
Kingman	8	3,277	1	0
Greenwood	46	1,628	21	0
Woodson	12	264	5	0
Harvey	52	32,655	4	0
McPherson	80	35,126	11	0
Reno	27	18,914	4	1
Rice	52	33,457	12	2
Russell	13	3,964	2	0
Rush	2	0	1	1
Sedgwick	18	1,427	9	0
Sumner	1	0	1	0
Stafford	7	2,542	3	0
Edwards	1	0	1	0
Coffey	1	0	1	0
Ellsworth	3	200	1	1
Marion	1	203	0	0
Clay	2	0	2	0
Trego	1	0	1	0
Phillips	1	0	1	0
Total six months	382	137,035	102	9
Same period 1933	240	77,909	83	9
Difference	142	59,126	19	0

Completion by Months

Month—	Comp.	Prod.	Dry	Gas
January	75	20,044	28	2
February	50	22,299	11	2
March	69	31,853	14	1
April	72	20,860	20	1
May	45	16,039	10	2
June	71	25,940	19	1
Total six months 1934.	382	137,035	102	9
First six months 1933.	240	77,909	83	9
First six months 1932.	230	82,509	77	9
First six months 1931.	256	75,488	79	58
First six months 1930.	514	100,380	217	47
First six months 1929.	489	78,523	206	38
First six months 1928.	624	68,531	225	59
First six months 1927.	770	62,726	331	40
First six months 1926.1,209		88,401	390	54

Stafford County Discovery

Vickers Petroleum Co. and Phillips Petroleum Co.'s No. 1 Cravens, a wildcat in Stafford County, SW cor. NE Section 15-25-11, found a pay at 3,920 feet late in March. It was drilled to 3,928 feet and acidized and made 182 bbls. of oil and 263 bbls. of water and was completed. Later it was deepened and when this was written was shut down at 4,085 feet.

The block on which the well was drilled consisted of 2,200 acres owned by the Phillips Petroleum Co., which gave Vickers Petroleum Co. a three-quarter interest for a well. Vickers in turn gave a quarter of its interest to G. W. Hinkle of Wichita for drilling the test. The block adjoins a 5,500-acre block to the south owned by Phillips Petroleum Co. which gave Vickers Petroleum Co. a half interest in it for a well in the event that the well on the Cravens farm proved a commercial producer. The two blocks had been core drilled.

In Ellsworth County

Late in April, Smith and Ash in their No. 1 Wilkins, SE cor. Section 13-17-10w, Ellsworth County, a wildcat, was acidized in Siliceous lime at 3,260-80 feet and swabbed 47 bbls. in six hours, with some water. Later it produced 160 bbls. in 24 hours. It was re-acidized and produced 282 bbls. of oil in 24 hours and was completed.

Early in May, Phillips Petroleum Co., in its No. 1 Dopitz, C SW SW Section 31-8-17w, Rooks County, got a hole full of water at 3,240-45 feet and plugged back to 3,217 feet and acidized. The well showed a production of 14 bbls. of oil and 82 bbls. of water in 24 hours.

Tom Palmer's No. 1 Nordling, SE cor. SW Section 19-18-2w, McPherson Pool, opened an extension to the Nordling Pool. It had Hunton lime at 3,040-50 feet and pumped 279 bbls. of oil in 24 hours.

The Graber Pool

One of the three most important discoveries in the State in the first half of the year was Continental Oil Co.'s No. 1 Graber, NE cor. NW Section 32-21-1w, McPherson County, which produced from Hunton lime at 3,274-93 feet. It was completed after it had been put on the pump and produced 870 bbls. in a 24-hour potential test. This area was named the Graber Pool.

Genessee Pool

In the same week, the Continental Oil Co., Empire Oil & Refining Co., and Shell Petroleum Corp. opened a pool in Rice County with their No. 1 Bennett, NW cor. SE Section 25-18-8w. It had Siliceous lime at 3,132-35 feet. It tested 940 bbls. in 21 hours and was completed and the area was named the Genessee Pool.

New Productive Zone

The Sinclair Prairie Oil Co. opened a

Kansas (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
GREENWOOD and WOODSON COUNTIES:							
Sallyards—							
Daily average	724	725	761	740	728	741	
Month	22,444	20,300	23,591	22,200	22,568	22,230	133,333
Teeter—							
Daily average	2,201	2,010	2,164	2,143	2,092	2,088	
Month	68,231	56,280	67,084	64,290	64,852	62,640	383,377
Virgil—							
Daily average	4,284	4,112	4,262	4,198	4,741	4,514	
Mon.h	132,804	115,136	132,122	125,940	146,971	135,420	788,393
Thrall-Burkett—							
Daily average	685	692	678	665	656	651	
Month	21,235	19,376	21,018	19,950	20,336	19,530	121,445
Seeley—							
Daily average	3,493	3,504	3,470	3,479	3,440	3,446	
Month	108,283	98,112	107,570	104,370	106,640	103,380	628,355
Polhamus—							
Daily average	492	463	505	507	479	490	
Month	15,252	12,964	15,655	15,210	14,849	14,700	88,630
Miscellaneous—							
Daily average	488	462	495	521	580	562	
Month	15,128	12,936	15,345	15,630	17,980	16,860	93,879
COWLEY COUNTY:							
Winfield-New Salem—							
Daily average	2,249	2,094	2,171	1,993	1,971	1,906	
Month	69,719	58,632	67,301	59,790	61,101	57,180	373,723
Rainbow Bend—							
Daily average	1,079	1,101	1,139	1,123	1,097	1,072	
Month	33,449	30,828	35,309	33,690	34,007	32,160	199,443
Rock—							
Daily average	91	76	90	103	84	88	
Month	2,821	2,128	2,790	3,090	2,604	2,640	16,073
Slick-Graham—							
Daily average	434	448	431	369	449	411	
Month	13,454	12,544	13,361	11,070	13,919	12,330	76,678
Eastman—							
Daily average	245	236	246	239	240	233	
Month	7,595	6,608	7,626	7,170	7,440	6,990	43,429
Miscellaneous—							
Daily average	848	779	796	764	778	763	
Month	26,288	21,812	24,676	22,920	24,118	22,890	142,704
McPHERSON COUNTY:							
Ritz-Canton—							
Daily average	12,449	13,529	14,429	14,468	14,207	14,517	
Month	385,919	378,812	447,299	434,040	440,417	435,510	2,521,997
Voshell—							
Daily average	7,321	7,115	7,195	7,678	7,280	6,929	
Month	226,951	199,220	223,045	230,340	225,780	207,870	1,313,206
Johnson—							
Daily average	1,473	1,754	1,977	1,974	2,053	1,961	
Mon.h	45,663	49,112	61,287	59,220	63,643	58,830	337,755
Nikkell—							
Daily average	3,347	3,811	5,659	6,331	5,745	7,311	
Month	103,757	106,708	175,429	189,930	178,095	219,330	973,249
Graber—							
Daily average	.....	.....	.....	.....	.....	170	
Month	.....	.....	.....	.....	.....	5,100	5,100
Miscellaneous—							
Daily average	72	65	62	67	68	69	
Month	2,232	1,820	1,922	2,010	2,108	2,070	12,161
HARVEY COUNTY:							
Hollow—							
Daily average	8,792	9,774	13,338	13,258	13,261	9,779	
Month	272,552	273,672	413,478	397,740	411,091	293,370	2,061,903
Newton—							
Daily average	74	86	116	120	108	111	
Month	2,294	2,408	3,596	3,600	3,348	3,330	18,576
RENO COUNTY:							
Welch—							
Daily average	744	719	765	796	818	790	
Month	23,064	20,132	23,715	23,880	25,358	23,700	139,849
Thode—							
Daily average	71	72	96	87	85	79	
Month	2,201	2,016	2,976	2,610	2,728	2,370	14,901
Haury (Burrton)—							
Daily average	2,493	2,770	3,082	3,764	5,325	5,286	
Month	77,283	77,560	95,452	112,920	165,075	167,080	695,460
RICE COUNTY:							
Raymond—							
Daily average	1,814	1,756	2,026	2,244	2,017	2,226	
Month	56,234	49,168	62,806	67,320	62,527	66,780	364,835
Sharpe—							
Daily average	415	762	1,624	2,187	2,493	3,302	
Month	12,865	21,056	50,344	65,610	77,283	96,060	323,218
Orth—							
Daily average	312	315	378	371	339	313	
Month	9,672	8,820	11,718	11,130	10,509	9,390	61,239
Beyer—							
Daily average	242	338	411	434	431	420	
Month	7,502	9,464	12,741	13,020	13,361	12,600	68,688
Genessee—							
Daily average	.....	.....	.....	.....	.....	127	
Month	.....	.....	.....	.....	.....	3,810	3,810
Ploog—							
Daily average	.....	.....	126	185	189	192	
Month	.....	.....	3,968	5,550	5,239	5,760	30,517
Chase—							
Daily average	3,664	2,804	4,273	4,416	4,447	5,227	
Month	82,584	78,512	132,463	132,480	137,857	156,810	720,706
Steckel—							
Daily average	85	88	93	96	105	101	
Month	2,615	2,464	2,883	2,940	3,255	3,030	16,587

(Continued on Next Page)

new producing zone in the Burrton Pool in Reno County in its No. 1 Base, in Section 26-23-4w. The Hunton was found at 3,585 feet and at 1 foot in the well started at 185 bbls. in 5 hours and 45 minutes on the swab. This was early in March. Later Umpire Morgan divided the chat and the Hunton lime producing zones in the Burrton Pool in allocating production allowables.

Opened Hilger Pool

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. late in March drilled their No. 1 Hilger wildcat in Section 16-26-4w, Reno County, into Viola lime at 4,062-67 feet and it swabbed 275 bbls. in 11½ hours. It is in the center of a 2,000-acre block which had been seismographed and core drilled. Later the well flowed 968 bbls. of oil and 185 bbls. of water through tubing, in a potential test and was completed. It opened the Hilger Pool, in the southeastern part of the county.

Hugoton Gas Field

Three was little news coming out of the western Kansas gas area known as the Hugoton Field. The Northern Natural Gas Co. operated a natural gasoline plant at Hugoton with a gas capacity of 40,000,000 feet per day and a throughput in May of 35,000,000 feet per day and was reported to be turning out from 11,000 to 13,000 gallons of gasoline daily and turning over the residue dry gas to the Pan American Eastern's trunk gas line.

It was reported in June that the Continental Oil Co.'s wildcat program in Kansas for the year called for an average of two tests per quarter. The company completed two tests in the first half that opened the Graber and the Genessee Pools.

Notwithstanding Kansas produced more oil in the first half of the year than in any other similar period since 1918, if not the most in any period in the State's history, there were times when refiners could not get enough crude. Their needs became so keen that it was reported in March that several refiners were paying premiums for crude oil.

Kansas rig builders went on strike in May and delayed operations to some extent. They were getting from $8 to $10 per day for their work, but they struck for $10 to $12 per day. It was said the strike was not sanctioned by the union to which some of the strikers belonged.

How Gasoline Tax Lifts Cost to the Consumer

State and Federal taxes lifted the cost of gasoline to the consumer an average of 5.21 cents per gallon above the average retail price of 14.17 cents in 50 representative cities on July 1, or to 19.38 cents per gallon, according to the monthly report of retail gasoline prices and taxes by the American Petroleum Institute.

The average retail price was 14.31 cents and the average cost 19.52 cents on June 1, the report shows, while on July 1, 1933, the average price was 12.41 cents, the average state and federal taxes 5.67 cents, and the average cost 18.08 cents.

The following table shows the changes:

Date—	Tank wagon (ex tax)	Service station (ex tax)	State and federal tax	Service station (plus tax)
July 1, 1934.	12.71	14.17	5.21	19.38
June 1, 1934	12.67	14.31	5.21	19.52
July 1, 1933.	11.80	12.41	5.67	18.08

A.P.I. COMMITTEE

The Division of Production, American Petroleum Institute announces the following appointments:

Central committee on district activities: W. H. Meier, Atlantic Oil Producing Co., Dallas, Tex., chairman; W. J. Crites, Phillips Petroleum Co., Bartlesville, Okla., vice chairman; C. A. Young, American Petroleum Institute, Dallas, Tex., secretary; Bruce Barkis, Rio Grande Oil Co., Los Angeles, Calif., California district section chairman; J. H. Newlon, Philadelphia Co., Pittsburgh, Pa., Eastern district section chairman; C. O. Rison, Indian Territory Illuminating Oil Co., Oklahoma City, Okla., Mid-Continent district section chairman; W. T. Doherty, Humble Oil & Refining Co., Houston, Tex., Southwestern district section chairman; John R. Suman, Humble Oil & Refining Co., Houston, Tex., representing central committee on standardization of oil equipment, and W. R. Trelford, Humble Oil & Refining Co., Houston, Tex., representing central committee on standardized procedure for measuring, sampling and testing crude oil.

C. R. Weidner, Sinclair Prairie Pipe Line Co., Independence, Kans., representing central committee on pipe line transportation; M. E. Brock, Gulf Production Co., Houston, Tex., representing committee on disposal of production wastes; R. E. Donovan, Standard Oil Co. of California, San Francisco, Calif., representing committee on accident prevention; George F. Prussing, Union Oil Co. of California, Los Angeles, Calif., representing committee on fire prevention; W. K. Whiteford, Barnsdall Oil Co., Tulsa, representing central committee on drilling and production practice, and George P. Bunn, Phillips Petroleum Co., Bartlesville, Okla., representing main committee on measuring, sampling and testing natural gas and natural gasoline.

Kansas (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
Brandenstein—							
Daily average	207	199	414	402	256	349	
Month	6,417	5,572	12,834	12,060	7,936	10,470	55,289
BARTON COUNTY:							
Isern—							
Daily average	246	277	332	354	427	585	
Month	7,626	7,756	10,292	10,620	13,547	17,640	67,481
Ellenwood—							
Daily average	425	486	644	818	805	881	
Month	13,175	13,608	19,964	24,540	24,955	26,430	122,672
RUSSELL COUNTY:							
Fairport—							
Daily average	3,899	3,768	4,224	3,977	3,803	3,933	
Month	120,869	105,504	130,944	119,310	117,893	117,990	712,510
Gorham—							
Daily average	1,005	1,181	1,455	1,561	1,557	1,378	
Month	31,155	33,068	45,105	46,830	48,267	41,340	245,765
Miscellaneous—							
Daily average	675	547	1,070	1,046	1,020	1,441	
Month	20,925	15,316	33,170	31,380	31,620	43,230	175,641
ELLSWORTH COUNTY:							
Stratman—							
Daily average	1,308	1,120	1,170	1,234	1,084	914	
Month	40,548	31,360	36,270	37,020	33,604	27,420	206,222
Breford—							
Daily average	277	282	310	304	270	269	
Month	8,587	7,896	9,610	9,120	8,370	8,070	51,653
Heikin—							
Daily average	134	138	138	138	307	225	
Month	4,154	3,864	4,278	4,140	9,517	6,750	32,703
Stoltenberg—							
Daily average	1,340	1,416	1,849	1,824	1,650	1,774	
Month	41,540	39,648	57,319	54,720	51,150	53,220	297,597
STAFFORD COUNTY—							
Richardson—							
Daily average	580	645	933	957	865	1,396	
Month	17,980	18,060	28,923	28,710	26,815	41,880	162,368
Gates—							
Daily average	16	64	59	58	75	125	
Month	496	1,792	1,829	1,740	2,325	3,750	11,932
Neola—							
Daily average	.....	.....	.....	55	130	47	
Month	.....	.....	.....	1,650	4,030	1,410	7,090
OTHER COUNTIES:							
Rooks—							
Daily average	27	20	39	30	42	40	
Month	837	560	1,209	900	1,302	1,200	6,008
Sumner—							
Daily average	3,000	2,995	3,287	3,191	3,138	3,144	
Month	93,000	83,860	101,897	95,730	97,278	94,320	566,085
Chautauqua—							
Daily average	1,606	1,583	1,578	1,582	1,543	1,590	
Month	49,786	44,324	48,913	47,460	47,833	47,700	286,031
Elk—							
Daily average	1,454	1,575	1,442	1,449	1,626	1,618	
Month	45,074	44,100	44,702	43,470	50,406	48,540	276,293
Wilson—							
Daily average	183	179	177	177	154	162	
Month	5,673	5,012	5,487	5,310	4,774	4,860	31,116
Montgomery—							
Daily average	922	964	962	949	899	937	
Month	28,582	26,992	27,822	28,470	27,869	28,110	169,845
Edwards—							
Daily average	42	45	.....	60	101	100	
Month	1,302	1,260	.....	1,800	3,131	3,000	10,493
Ellis—							
Daily average	315	278	344	355	631	692	
Month	9,765	7,784	10,664	10,650	19,561	20,760	79,184
Kingman—							
Daily average	333	909	1,636	1,799	1,796	1,805	
Month	10,323	25,452	50,716	53,970	55,676	54,150	250,287
Allen—							
Daily average	491	464	471	466	436	445	
Month	15,221	12,992	14,601	13,980	13,516	13,350	83,660
Neosho—							
Daily average	470	482	464	473	464	470	
Month	14,570	13,496	14,384	14,190	14,384	14,100	85,124
Lyon—							
Daily average	247	222	249	246	258	251	
Month	7,657	6,216	7,719	7,380	7,998	7,530	44,500
Miami—							
Daily average	873	851	834	841	766	778	
Month	27,063	23,828	25,854	25,230	23,746	23,340	149,061
Franklin—							
Daily average	268	264	257	260	233	250	
Month	8,308	7,392	7,967	7,800	7,223	7,500	46,190
Labette—							
Daily average	15	16	16	15	13	14	
Month	465	448	496	450	403	420	2,682
Bourbon—							
Daily average	56	52	46	47	31	37	
Month	1,736	1,456	1,426	1,410	961	1,110	8,099
Linn—							
Daily average	95	101	103	99	95	94	
Month	2,976	2,828	3,162	2,970	2,945	2,820	17,701
Anderson—							
Daily average	811	1,225	889	907	832	849	
Month	25,141	34,300	27,559	27,210	25,822	25,470	165,502
Woodson—Miscellaneous—							
Daily average	13	16	20	23	24	25	
Month	403	448	620	690	744	750	3,655
Rush—							
Daily average	10	.....	.....	.....	.....	.....	
Month	310	.....	.....	.....	.....	.....	310
Daily average	108,382	113,253	127,638	131,171	131,514	132,082	124,101
Total first six months 1934	2,359,842	3,171,084	3,956,778	3,935,130	4,076,934	3,962,460	22,462,228
Total first six months 1933	2,871,282	2,801,512	3,604,539	3,492,990	3,377,103	3,210,150	19,257,576
Total first six months 1932	3,170,587	2,838,839	3,042,929	2,974,080	3,038,930	2,837,179	17,092,544
Total first six months 1931	3,432,475	3,341,016	3,498,598	3,281,880	3,341,366	3,175,440	20,070,775
Total first six months 1930	3,273,197	2,965,704	3,604,395	3,734,253	3,937,385	3,765,060	21,220,994
Total first six months 1929	2,861,641	2,557,968	2,951,076	3,112,740	3,665,099	3,636,150	18,784,674
Total first six months 1928	3,319,335	3,079,887	3,379,031	3,412,860	3,367,809	3,202,050	19,760,462
Total first six months 1927	3,769,879	3,352,076	3,676,143	3,516,930	3,704,314	3,437,580	21,455,922

Extreme Care, Nursing and Study Are Required in Production From Old Properties in East

By HERMAN J. LITTLE
South Penn Oil Co., Pittsburgh, Pa.*

The present economic conditions in the Appalachian area for the production of oil from properties that have grown old in operation are such that they are requiring extreme care, nursing and study for practically every area from New York State to Kentucky. Problems dealing with the replacement of material for maintenance of well, utilization of labor and methods of production to pursue, for the continued economical lives of many properties are manifold. Practically all properties have characteristics peculiarly their own and require an individual operating study based on the mindful slogan, "It can be done, but will it pay." In this short paper it is the intention to indicate a few operations with respect to the nursing of small wells that can be done and will pay in many places when properly applied.

In the Eastern fields with wells of long life, the replacement of worn out equipment is necessary and almost always a heavy burden. South of the Butler Field many wells are still equipped with wooden rigs that have fallen to decay, and there is little desirable cheap timber at hand for replacement. Early iron rigs are also in need of replacement, and as a result, there has been a concerted effort to build a more permanent rig setup, and a general transition is taking place in the fabrication of physical equipment by the use of salvaged pipe.

Replacements of rigs have received considerable study. The present trend is toward an outfit made of materials with greater resistance to erosion and corrosion. Permanent rig setup is the objective in mind. Much greater care in the aligning of equipment is now exercised. In fact the conception concerning new rigs is a power plant installation with blue print specifications for erection. The consequence of such care in planning and installation of replacements has resulted in expediting well operations, considerable decrease in loss of time for adjustments and minor repairs, better power transmission and safety with satisfaction for workmen, with materials having much longer utility and stability. Concrete foundations for engine, jack posts, sampson posts, sand reels and derrick legs are now being used. Steel pipe is fashioned into walking beams, jack posts and sampson posts. This pipe is material salvaged from field operations that have been abandoned. The sizes and weights of pipe used vary from 4-inch, 10-pound to 8-inch 24-pound. Steel bullwheels are being generally used. The use of these materials has made a marked improvement in the life of the rig equipment and a desirable decrease in subsequent replacement costs and accidents to workmen.

Heating of Oil

Equipment for the heating of oil for pipe line runs is receiving more careful attention where supplies of gas are dwindling. There are three kinds of heaters of the direct heating types that are proving useful and economical. First, there is the copper coil type of direct heating equipment designed and installed on the plan of the domestic water heating type. Another type is patterned after the horizontal return tubular boiler made from salvaged pipe of 8 or 10-inch diameter by welding methods. This type involves the welding of 1-inch flues in a piece of 10-inch pipe about 4 feet long. The unit is then set on brick foundation similar to a return tubular boiler. Connection lines from storage tank to heater and return are constructed a short distance from storage tank. In the steel oil run tank a direct oil heater of the flue type has been used with satisfaction and economy. This type simply involves a piece of 3 or 4-inch pipe permanently welded in the tank, running from a point on the circumference on the tank 6 to 8 inches from the bottom and parallel with the same, across the diameter of the tank to within a foot of the side wall of the tank. A 90 degree weld is used to extend this flue vertically through the roof and parallel with the side wall of tank. The heat from a small gas flame courses through this flue with a satisfactory heat exchange. In all oil heating operations the handling of the crude oil before running the oil to the storage tank is extremely important. The syphon type oil water separator on the derrick floor is practically indispensable, and its use, providing the removal of water and sediment from the oil, removes the majority of troubles encountered with direct oil heaters. Occasionally an oil is such that it must be heated by other methods, but usually the crude properly separated from foreign matter can be heated satisfactorily in one of these three types.

*Before A.P.I., Pittsburgh, Pa.

Pumping Conditions

A watchful survey of pumping conditions on all properties is considerably worth while. This is still the important operation that it always has been and must have constant supervision. Frequently many producers have been complacently satisfied with a regular pumping routine which has not been questioned for years. This attitude has been brought about by lack of trouble with the wells and no particular effort to learn the full pumping possibilities of the wells by varying the different factors affecting the recovery of oil. This particular feature on production does not receive the close attention that the best economical operation demands. A general iron clad rule cannot be given for all properties. However, from working experience in different locations, a careful study of the well elevations and drilling records with respect to pay sand contours is always of first and worth while importance.

Subsequent field work to check the position of pumping equipment in each well with respect to pay sand and pocket is absolutely essential. This is followed by experiments to determine the proper depth for the pump, the pump being operated at various depths long enough to secure definite data on quality and volume of oil recoverable from the given depth. Under the old program the usual operation has been to pump two days a week for three hours in which time a well pumps off and makes, for example, 3 bbls. of oil on each pumping, or 6 bbls. By undertaking a pumping operation three times a week, two hours each time, instead of the prolonged two-time pumping, and gradually extending the time to possibly four times a week and a shorter pumping period of only one hour and a half each time, the result has not only been the recovery of the regular production of 6 bbls. a week, but an additional 4 to 5 bbls. more. The additional recovery has not resulted in every case where the pumping times were changed. It has occurred in so many cases that it is considered a worthwhile effort. This method of operation has resulted in considerably larger recoveries of oil from wells that are of low rock pressure, and of course, lack filling capacity due to fluid head pressures. Such increases as thus obtained have been maintained with no damage to the wells and practically no increase in cost because most of this kind of field work can be sandwiched in the regular pumping routine at odd periods if the field work is carefully planned and the force kept busy.

With the sustained decrease in the value of casinghead natural gasoline, there is a transition taking place on many properties where normal vacuum operations have been maintained. The vacuum conditions are being eliminated, thus saving the cost of one stage of compression in handling the casinghead gas. Many gas pumped properties still have good rock pressure existing in the oil sand. The producing oil wells are gradually being restored to atmospheric pressure conditions or higher, in keeping, of course, with the nature of the remaining sand characteristics. With this change there is a slackening of oil production temporarily, but eventually many properties have returned to normalcy, and in some instances, better than what was known as normalcy.

Regular Cleaning

Regular cleaning is of the greatest importance in the case of most wells. Intelligent planning of the cleaning out routine, backed with the idea of cleaning out regularly, has much to recommend it to the average producer. It is by means of this more frequent cleaning out routine that a better understanding of the characteristics of the field may be had, resulting in profitable knowledge for proper position of pumping equipment, better pumping conditions and maximum efficiency in the production of oil from the hole.

In conjunction with the cleaning out operation, shooting with glycerin has held favor in many cases, and rightfully so, but it is also advisable to consider in many cases a treatment with carbide and water in addition to the cleaning out operation, in preference to shooting. This treatment is not always effective, but past experience with carbide treatment shows ample return for the effort. Wells that have responded to shooting and subsequent cleaning with increased production have been further stimulated with the addition of the carbide treatment even after being pronounced "cleaned out" with the usual cleaning out procedure. Experimental treatment with carbide and water showed that in many of these cases, cleaning was only partial. After the heating action of the carbide and water, large quantities of what is undoubtedly caked paraffin mud, and sand are removed. The quantity of carbide used at times has been from 300 to 500 pounds per charge, depending on the size of the shot hole in the pay sand, with the addition of 1 bbl. of water for each 100 pounds. After heating, agitation and bailing out operations have been completed, these wells thus treated in most cases have shown exceedingly good recoveries in oil production over that usually recorded. An accompanying in-

IMPORTANT BOOKS
for the Oil Man's Library

"THE PYROLYSIS OF CARBON COMPOUNDS"

The alchemist of 23 centuries ago recognized but four elements—fire, earth, air, and water—and of these fire has through the ages continued to have an extended influence in producing decomposition and new arrangements of molecular groups. During the past 50 years many industries have advanced through the use of the tremendously powerful agent, controlled heat. The study of the transformations of one material to another, and the building of new substances by heat alone, is called pyrolysis.

Investigations of the best-known authorities of the world into the behavior of substances when subjected to heat treatment have been brought together in "The Pyrolysis of Carbon Compounds," by Prof. Charles Dewitt Hurd, a monograph of the American Chemical Society. This book of 807 pages is fully illustrated with formulas explaining the structure and composition of many substances. There are 26 chapters, among which are: Pyrolysis; Aliphatic Hydrocarbons; Cyclic Hydrocarbons; Petroleum, Rubber and Related Hydrocarbons; Carbohydrates, Wood and Coal; Sulphur Compounds; Polymerization and Depolymerization.

The history of the cracking of petroleum is treated in Chapter 5, and many details of the fundamental changes that take place in cracking are discussed. The chapter on sulphur compounds, Chapter 24, will be found of interest and value to all petroleum chemists.

The thermal decomposition of the aliphatic hydrocarbons is described in Chapter 3, pages 46 to 86. Petroleum, Rubber, and Related Hydrocarbons is the heading of Chapter 5. Here is an extended discussion of the cracking operation.

This book should be in the hands of all who are interested in petroleum refining and those who are searching for information about the products that may be produced from natural gas and petroleum. It may be purchased through the Book Department of The Oil and Gas Journal at the regular price of $9.50, express prepaid. A copy will be forwarded promptly upon receipt of check or money order for that sum; if order is not accompanied by payment, the book will be sent express c.o.d.

crease in casinghead gas is usually noted. It appears that this operation produces a better cleansing of the pay sand. The productive life of the wells is appreciably extended.

In the operation of many old wells, the operators are sometimes faced with caving conditions which require unusual pulling and cleaning operations and interfere seriously with the normal productivity of the wells. This condition can be corrected satisfactorily by filling the shot hole with river gravel about three-quarters inch in diameter. The presence of the gravel tends to hold the caving material in place, and at the same time, permits unrestricted drainage of oil to the bottom of the hole for removal. Wells fixed with this remedial measure have given no trouble from caving conditions for periods up to three years thus far. As a result, profitable production has been taken from the wells that normally would have been abandoned. The use of a slotted liner set on bottom of hole permits the placing and operation of pumping equipment at depths that are necessary.

Nursing Stripper Wells

The nursing of the stripper well has been amply helped by pressure drive or repressure methods using gas or air under pressure as the media for stimulating oil sands that have been depleted of the natural gas force that originally produced the oil. Many natural gas gasoline plants are found to be extremely valuable pieces of equipment now even though the return from the natural gasoline production has almost vanished. A gradual transition has taken place. The plants are now serving mainly as a source of marketing casinghead gas and supplying gas under pressure for pressure drive operations. Natural gasoline is still manufactured, but the importance of the plant operation is based on the supply of energy in the form of gas pressure to oil sands. With decline in natural gasoline value and the application of pressure to the oil sand, vacuum conditions are being dissipated, with the result that many plants are dispensing with vacuum pumps and supplying compressor equipment for this newly formed idle horsepower, thus affording greater capacity for pressure drive operations.

The storafe of casinghead gas on many small isolated properties is very useful in nursing the operation of producing wells over the winter season when gas supplies are diminished. Pressure drive or repressure activities have contributed largely to this phase of operation. With the transition from vacuum to positive gas pressure in the casinghead gas gathering system, which pressure drive operation has made possible, satisfactory increased oil production has been obtained with back pressures on the gathering lines being maintained at 5 to 10 pounds above the atmospheric pressure. This stored gas has been found to be extremely useful in supplying fuel for pumping and oil heating operations for pipe line runs during periods when free gas consumers are making the greatest demands. The gas gathering systems, now operated in many cases with back pressure of approximately 5 pounds gas pressure, automatically serve as fuel systems for pumping, thus replacing many old separate fuel field systems, the repair and maintenance of which are costly, and in some instances, prohibitive at this time.

Gas Storage

Another practical phase of this gas storage plan has been incorporated in small oil property operation. There are properties that do not respond to pressure drive. It happens a well is selected and prepared as a pressure hole. The effort is made to revive the production of the same, but results are not what is desired. The inclination is to withdraw and try another. This well territory can, while not responding properly to pressure drive operations, be termed a profitable operation by continuing to put excess gas in during the warm months when gas is available and making a gas reservoir out of this well. The conversion of these wells to gas reservoirs is extremely useful in nursing operations of production during a severe winter. When the casinghead gas becomes very short, these reservoirs will supply fuel gas that is indispensable.

In the handling of the small oil property under the pressure drive, or repressuring method, which is recommended to all operators for at least a trial of the operation, there is the possibility that, through some unexpected circumstances, there is not enough gas to supply simultaneously all the pressure wells with the usual amount of gas, or gas-air mixture. Possibly it is not desirable to mix air with the gas for increased supply of pressure medium, and again possibly the air-gas mixture is of such a nature that additional air to the mixture is not warranted. It has been found feasible under such circumstances where a property is producing nicely with two or three pressure wells, to rotate the full supply of gas to each pressure well for a definite period of time rather than to divide the amount among the three and thus underfeed each pressure well and permit a general lessening of the pressure on the whole property. By rotating the full amount to each pressure well on the property intermittently, it is possible to carry along an improved and profitable condition over a wide pressure area.

A few wells which produced from one-half to 3 bbls. of oil per day from lime formation, recently have received profitable attention from the use of commercial hydrochloric or muriatic acid. The action of this material on strictly lime formation has made lime wells that were ready for deeper drilling operations, or abandonment, show recoveries of oil that are extremely satisfactory and the procedure is thoroughly warranted as an experimental operation.

In this eastern area the oil-producing property generally is broken up into farms irregular in shape and ownership. The small production of these properties has made quite impossible for individual owners to nurse the production along and carry the added burden of an individual pressure drive, or repressure plants. There are, however, opportunities for continued profits from even this type of property. There is the possibility of several small properties lying adjacent to each other, or nearly so, and producing generally from same pool or sand, being operated as a unit, and sharing in a co-operative pressure drive, or repressure operation, based on a calculated percentage of what the inventory value of the property is to the whole in an operating combination of properties. There are a few profitable undertakings of this nature now operating and others in the making.

In conclusion, the average owner of the stripper well may still be said to have opportunities ahead of him if he but study his property carefully, analyze his costs and plan thoughtfully for the future. The property must be kept in good physical operating shape by gradual replacement of more durable equipment to keep down future costs, and a very conservative and studious experimental management of the producing wells for the greater recovery of oil from the sand. The subject matter in this paper is offered with this in view. Here are a few efforts that have made profitable returns.

Believers in Nonscientific Devices for Finding Oil

(Continued from Page 74)

man or company will ever get oil no matter how deep they may drill when we find with our test it shows dry hole location.

We have tested over 400 wells the past four years, which we went to as they started and were drilling here in Kansas, and up to the present our test proved our forecast, for each well was 100 per cent correct, not a single failure have we made in our forecast, and I will make it a little stronger and say, where our test shows oil where we set a stake to drill you will get oil. The depth you may have to drill to the oil level, we cannot tell you, only the bit can prove the depth you have to go to the oil level at that stake or location.

We located the oil at Oklahoma City in the winter of 1919, as we were on the Santa Fe train for the Rio Grande Valley. We made inquiry at the depot if any drilling for oil was being done near there and the agent told us yes they drilled 4,300 and 4,500 feet and got no oil and quit. We told the agent to tell those drillers to drill deeper till they came to the oil, it was there waiting for some one to drill to its level. I tried to get some major companies interested but could not.

Relative Service Value of Cracked and Leaded Fuel

(Continued from Page 80)

gasoline, the authors[2] have correctly stated that the true cause is due to the different chemical composition.

In the tests reported in this paper, Fuel 2 has an A.P.I. gravity of 61.9° as compared with that of 60.7° for Fuel 2T. yet Fuel 2 shows an increase in indicated horsepower hours per gallon over Fuel 2T. In the earlier paper,[1] it was clearly shown that alcohol blends of lower A.P.I. gravities (higher specific gravities) than the unblended fuel gave less horsepower hours per gallon even at higher compression ratios.

Gravity as Index

In the case of the two straightrun fuels 1 and 4, Fuel 1 of the lower A.P.I. gravity delivers the greater work (mileage) per gallon. Clearly, gravity may be used as an index of the relative miles per gallon obtainable from different fuels, only when the fuels are composed of approximately the same general class of chemical compounds, as is the case in comparing Fuels 1 and 4 as in Table 3.

In the road tests reported by Hubner and Murphy[3] the cracked gasoline at 50° A.P.I. was found to deliver from 0.8 per cent to 1.1 per cent greater mileage than the leaded fuel of 62.1° A.P.I. and same A.S.T.M. octane number and distillation characteristics. Table 4 gives the results obtained on the C.F.R. engine at constant compression ratio and carburetor setting, which conditions are comparable to those used in the road tests referred to.

These results indicate that the gravity of the fuel (heating value per gallon) becomes of greater importance in comparing cracked and leaded gasolines when run under low and constant compression ratios.

Conclusions

Careful laboratory work on the C.F.R. test engine confirms the trend indicated by road tests,[3] that cracked gasolines are superior to leaded straightrun gasolines of the same octane number, in regard to miles per gallon (indicated horsepower hours per gallon).

At high compression ratios, or under knocking conditions, this superiority of cracked gasolines in regard to miles per gallon becomes more pronounced, and the cracked gasolines deliver a greater power output of the engine than leaded gasolines of the same octane number.

At low compression ratios and with fixed carburetor settings, the relative economy obtained from gasoline produced from petroleum may be estimated from their relative densities.

Other factors, including octane number, being equal, the more highly cracked the fuel, and the lower its A.P.I. gravity, the greater is the relative superiority of the cracked gasoline over the leaded fuel.

Acknowledgment

The fuels used in these tests were kindly furnished by the Shell Petroleum Corp.

Eastern Oil Exposition at the Diamond Jubilee

TITUSVILLE, Pa., July 23.—Mecca for thousands of visiting oil men coming here in August for the four-day celebration of the Diamond Jubilee of Oil, will be the scene of the Eastern Oil Exposition.

Housed in a flag bedecked building containing 76,000 square feet of exhibit space, the oil exposition, in conjunction with the dedication of Drake Well Memorial Park, is the first national petroleum exposition ever staged in the East.

Fittingly held within the shadow of the first oil derricks of the world, the venture is an assured success, since refiners, manufacturers, marketers and the allied oil groups already have reserved space for their exhibits and are enthusiastic about the eastern showing.

Harry Botsford, secretary, announces that space in the huge exposition building will be occupied by the Quaker State Oil Co., Oil Creek Refining Co., Bradford Oil Refining Co., United Refining, Pennsylvania Refining, Socony-Vacuum Co., Pennzoil, Continental Can, Metric Metal, Manning Steel Barrel, Steel Barrel Manufacturers' Council, Auto Car, International Motor, S. R. Dresser Manufacturing, Cyclops Steel, Titusville Iron Works, Spang & Co., and a score of nationally known firms.

John J. Oakleaf, chairman of the Eastern Oil Exposition, has made reservations for leaders of the petroleum industry whose names are among the "blue book of oil" and include: Axtell J. Byles, president of the American Petroleum Institute; Governor George White of Ohio, Secretary of the Interior Harold Ickes, Gifford Pinchot, governor of Pennsylvania, Christy Payne, treasurer of the Standard Oil of New Jersey; Robert McKelvy, vice president of the Tide Water Associated; Judson C. Welliver, vice president of Sun Oil Co. and many others.

The general committee of the Diamond Jubilee of Oil is making preparations to be host to 50,000 visitors.

TABLE 3—RELATIVE POWER OUTPUT AND ECONOMY BETWEEN CRACKED AND LEADED FUELS OF SAME OCTANE NUMBER, COMPUTED FROM TEST DATA OF TABLE 2

Fuel	°A.P.I.	Octane No.	Relative power output at compression ratio: Incipient knock	5.00	5.50	Relative economy at compression ratio: Incipient knock	5.00	5.50
2T	60.7	66	1.00	1.00	1.00	1.00	1.00	1.00
2	61.9	65	1.00	1.005	1.03	1.013	0.988	1.05
5T	65	68	1.00	1.00	1.00	1.00	1.00	1.00
5	62.3	67	.997	1.005	1.03	1.018	1.025	1.07
3T	60.7	69	1.00	1.00	1.00	1.00	1.00	1.00
3	52	69	1.00	1.01	1.04	1.046	1.036	1.085
1	60.9	54	1.01	1.014	1.019	1.019	1.032	1.039
4	66.3	52	1.00	1.00	1.00	1.00	1.00	1.00

TABLE 4—INDICATED HORSEPOWER AND ECONOMY OF CRACKED AND LEADED FUELS OF SAME OCTANE NUMBER

Carburetor setting constant.
Compression ratio constant at 4.32.
Other conditions as specified for A.S.T.M. octane determination.

Fuel	Corrected I.H.P.	Lbs. fuel/hr.	Gals./hr.	Observed I.H.P.	I.H.P. hr./gal.	Relative economy
1	3.62	1.96	.324	3.50	10.80	1.031
4	3.60	1.96	.332	3.48	10.47	1.00
2	3.60	1.95	.325	3.48	10.71	.994
2T	3.63	1.97	.336	3.51	10.78	1.00
3	3.62	1.96	.310	3.51	11.32	1.039
3T	3.59	1.93	.319	3.47	10.88	1.00
5	3.61	1.92	.322	3.49	10.85	1.015
5T	3.60	1.93	.324	3.48	10.69	1.00

Much East Texas Oil Property Changed Hands First Half of Year; New Oil and Gas Pools

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

During the first half of the year the entire East Texas district, fields and wildcat areas, has seen a great amount of activity, conditions appearing at this writing to presage still further activity and development in the last six months of the year, with the possibilities of other Woodbine sand fields being opened in the district.

Two oil fields were discovered and one gas area opened in the southern part of the district, one of these fields being located in the northwest corner of Anderson and the other in southern Cherokee County. The gas area was opened south of Turlington in Freestone County. The latter discovery well has been the only one drilled in that area to date. There is a possibility that other tests nearby may prove oil producers, although it may be an area like the one opened in Leon County the latter part of 1933 by the Shell Petroleum Corp. and others, proving only good for gas.

Cayuga District

The first wildcat discovery in the district this year was drilled on a large block held jointly by the Tide Water Oil Co. and Texas Seaboard Oil Co. Location was on the J. N. Edens farm in the Samuel Snider Survey in northwest Anderson County, and about 20 miles due north of the same owners' Long Lake discovery and block that so far has proven principally a gas producing field. The discovery well topped the sand at 4,076 feet and was completed at a total depth of 4,088 feet, flowing through tubing choke. Gravity of the oil first tested 28.7° and showed 1.7 per cent sulphur content, the base containing both asphalt and paraffin. This is the first oil of its type found in the East Texas or East Central Texas district. However, after the well produced for some time the gravity increased to around 34°. There are now 15 producers in the pool, which is defined on the east, southeast and northeast. The saturated sand horizon is comparatively thin, and unless the pool runs due north, to the south or southwest, it is not considered as having the possibilities of covering a very large area. The Texas Pipe Line Co. connected with the pool by a line from its North Texas-Gulf Coast carrier. It is called the Cayuga Pool.

The government issued orders to the effect that only 75 oil wells are to be completed in the Cayuga Field during the year, except if the daily allowable reaches 10,000 bbls. per day then drilling is to be stopped.

The Long Lake Field

Drilling in the Long Lake Pool, southwest Anderson County, was stopped by the Tide Water Oil Co. and Texas Seaboard Oil Co. during the year, after it showed mainly as a gas producing area. Two of the five producers, alone, are making oil with the gas. The others are producing only gas, which as yet, is not being taken by any gas company, although a couple of gas companies made bids for same.

Gas Discovery in Freestone

The next discovery in the southern tier of counties in the East Texas district was made by the Daniels Oil & Royalty Co. on the P. D. C. Ball lands in the Augillera Survey, about 1½ miles south of Turlington in Freestone County. Elevation is 427 feet. It was completed for a 5,600,000-foot gasser after the company spent considerable time in coring deeper, then plugging back in an effort to make an oil producer out of it. It first made 5,000,000 feet of gas at 4,828-62 feet on a drill stem test, and through three-quarter-inch choke on bottom and 2-inch choke on top. It was drilled to 5,003 feet when salt water showed up, causing the owners to plug back to 4,865 feet to complete it as a gasser estimated good for the above named amount. No other location has yet been made in or near the discovery.

Discovery in Cherokee County

In June, T. J. Wood of Houston and others opened a new Woodbine producing area in Cherokee County, the third producing pool for the county. Location of this discovery is on the New Birmingham Development Co.'s lands in the Levi Jordan Survey, approximately 6 miles southwest of the county seat, Rusk. The test first was completed at a total depth of 5,120 feet, but due to salt water showing with the oil it was plugged back and redrilled after whipstocking and drilling through casing. The sand was topped in the new hole at 5,103 feet and drilling stopped at 5,107 feet, salt water again showing and causing the belief that it is probably a west edge well. Gravity of the oil tested 39.8° at 77° temperature, or oil similar to that found in the East Texas Field about 27 miles to the northeast. During the first 24 hours on production after drilling the new hole, it made 1,102 bbls. through a three-quarter-inch choke on casing. The first hour's test showed the well making 45 bbls. of fluid of which 13 per cent was b.s. and water.

A location has been made 600 feet to the north for another test, and another location has been made 600 feet to the west by the owners, who acquired acreage for the test from the Shell Petroleum Corp.

Discovery of this well led to an exceptionally active lease and royalty play immediately, companies buying acreage and playing it as if there was a shoreline condition existing in the area, the trend leading to the north or northeast. Offset acreage brought as high as $1,000 per acre cash, and $1,000 per acre in oil, shortly after the well came in.

In Leon County

An incident, so far of little importance, was the completion of Shell Petroleum Corp. and others' No. 1 Lee, in the W. Cooper Survey, in the Centerville area, Leon County. This test is located about 4 miles northeast of the same operators' two gassers on a different structure. It was drilled to a total depth of 6,040 feet but plugged back to 5,660 feet to complete. At 5,533 feet it tested 7,000,000 feet of gas after topping the Woodbine section at 5,512 feet. Elevation is 423 feet. No gas system or other company has connected with the three gas producing wells in this area, and it is doubtful when another test will be put down on the large block surrounding the wells. So far the structure and block has been disappointing from an oil production standpoint, the wells already drilled creating a large amount of expense to those associated in the block, with but little return on the heavy investment. Discoveries of this nature are not incentives for drilling other wildcats in the area or county. This gas producing area is approximately 22 miles southwest of the Long Lake area, southwest Anderson County, which is producing mostly gas.

East Texas Field

Featuring incidents taking place in and in connection with the East Texas Field during the year, was the upholding of the Commission's regulations and powers by

East Texas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
LATHROP:							
Daily average	192,107	199,311	211,417	214,174	215,498	234,784	
Month	5,955,317	5,580,699	6,552,939	6,425,223	6,680,438	7,043,524	38,239,140
KILGORE:							
Daily average	136,814	143,875	153,660	155,669	156,631	170,655	
Month	4,241,230	4,028,511	4,763,450	4,670,068	4,855,572	5,119,647	27,678,478
JOINER:							
Daily average	122,114	127,116	139,510	138,882	139,740	152,350	
Month	3,785,545	3,559,252	4,324,807	4,166,459	4,331,936	4,567,502	24,735,501
Daily average East Texas	451,035	470,302	504,587	508,725	511,869	557,689	500,346
First six months 1934	13,982,092	13,168,462	15,642,196	15,261,750	15,867,946	16,730,673	90,652,119
First six months 1933	10,459,555	10,641,574	17,355,872	10,916,250	31,322,845	22,908,640	103,604,436
First six months 1932	10,257,192	8,988,702	10,141,772	10,659,801	10,707,333	9,997,238	60,752,039
First six months 1931	110,516	701,739	2,900,925	7,479,756	9,658,710	10,680,539	31,532,184
TOTAL EAST CENTRAL AND EAST TEXAS:							
Total first six months 1934	15,319,542	14,375,629	16,995,805	16,680,625	17,438,469	18,337,836	99,147,406
Total first six months 1933	11,969,637	12,293,536	19,139,345	12,685,181	33,147,374	24,657,726	113,942,799
Total first six months 1932	11,752,519	10,523,809	11,846,674	12,323,546	12,473,164	11,814,351	70,734,063
Total first six months 1931	1,360,297	1,887,595	4,356,079	8,989,706	11,348,163	12,468,225	40,410,065
Total first six months 1930	669,523	675,455	813,799	1,030,567	1,194,501	1,229,886	5,616,731
Total first six months 1929	675,021	579,471	666,569	605,389	608,505	577,820	3,712,775
Total first six months 1928	797,384	727,284	780,967	727,455	736,122	706,269	4,475,481
Total first six months 1927	1,479,568	398,208	1,442,554	1,264,690	1,066,028	1,032,720	7,673,768
Total first six months 1926	1,928,851	759,548	1,822,614	1,763,970	1,702,853	1,557,730	10,536,616
Total first six months 1925	6,376,886	518,416	4,888,917	4,111,490	3,862,375	3,379,740	27,138,824

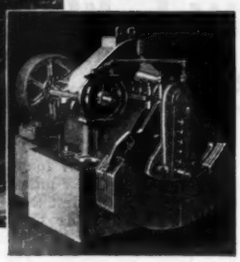
East Central Texas

Daily Average and Monthly Production First Six Months of 1934

Pool and County—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BOGGY CREEK, CHEROKEE:							
Daily average	601	609	606	604	592	602	
Month	18,639	17,052	18,786	18,127	18,350	18,064	109,018
CURRIE, NAVARRO:							
Daily average	152	140	158	150	149	178	
Month	4,721	3,928	4,906	4,494	4,622	5,342	28,014
CAYUGA, ANDERSON:							
Daily average	.....	.....	487	823	1,063	1,471	
Month	.....	.....	15,089	24,692	32,951	44,126	116,858
LONG LAKE, ANDERSON:							
Daily average	47	51	111	153	144	125	
Month	1,450	1,416	3,444	4,596	4,468	3,749	19,123
MEXIA, LIMESTONE:							
Daily average	2,237	2,091	2,072	2,170	2,135	2,225	
Month	69,345	58,546	64,224	65,113	66,181	66,749	390,161
POWELL, CHEROKEE:							
Daily average	2,552	2,536	2,529	2,490	2,481	2,478	
Month	79,110	71,006	78,394	74,693	76,910	74,341	454,454
RICHLAND, NAVARRO:							
Daily average	37	41	36	35	37	45	
Month	1,142	1,151	1,104	1,059	1,149	1,347	6,952
SATAN:							
Daily average	2	1	.....	.....	.....	.....	
Month	66	29	.....	.....	.....	.....	95
VAN, VAN ZANDT:							
Daily average	37,405	37,540	37,546	40,763	43,965	46,350	
Month	1,159,562	1,051,118	1,163,937	1,222,894	1,362,913	1,390,503	7,350,926
WORTHAM, FREESTONE:							
Daily average	110	104	104	107	96	98	
Month	3,412	2,921	3,235	3,207	2,979	2,942	18,696
Daily average East Central Texas	43,144	43,113	43,649	47,296	50,662	53,572	46,930
Total East Central Texas	1,337,450	1,207,167	1,353,109	1,418,875	1,570,533	1,607,163	8,494,287
First half 1933	1,510,082	1,651,962	1,835,473	1,768,951	1,824,829	1,749,086	10,338,363

LEFT: A 100% Ideco-equipped pumping installation from engine to derrick.

BELOW: Ideco geared pumper SS-100.



IDECO PUMPERS are the *profitable* oil getters!

YOUR pumping job is too important to be handled by equipment that you can't depend on absolutely for trouble-free service. Why not guard against periodic shutdowns and continuous pumping losses by insisting on the use of only Ideco *geared* Pumpers. They're made for doing the job with the utmost efficiency—and for doing it at lowest possible cost.

Let us tell you about them and why they are the most profitable oil getters you can put on your wells. Built in a complete line —20 to 100 h.p. May be equipped with sprocket for operating tubing hoist or a tug rim for driving bull wheel. Write our nearest branch for bulletins 100 C, D and E.

Back side of unit showing new Ideco 3-wing backside crank for multi-well pumping. A big feature!

THE INTERNATIONAL DERRICK & EQUIPMENT CO.

Beaumont, Texas Columbus, Ohio
Los Angeles, Calif.

Branches in all leading oil centers.

a three-judge Federal Court; the U. S. Circuit Court of Appeals at New Orleans reversing Federal Court decision and returning power to federal authorities to investigate refineries and carry on other work in regard to production and oil transportation regulations; two large transfers of producing properties in the field; trouble and resignations within the Railroad Commission forces; the sentencing of one operator to 90 days in jail by a federal judge for violating a federal injunction in regard to production of oil, and the outright theft of oil from producers. During the latter part of June the Railroad Commission picked a committee of three East Texas business men to hold tender meetings and pass on the legality of oil and right to transport same. This committee, now known as the "little commission," is holding daily tender meetings, and is supposed to help the Commission to regulate the industry in the field by other methods also.

The Railroad Commission has done little to put a stop to overproduction in the field, and during the latter part of the first six months outright stealing of oil has been carried on to a great extent, many devious methods having been used to get oil from wells and leases, most of which is run to local refineries. Nothing has been done to stop that practice either, although some men have been arrested and turned out on bond, the cases just hanging fire.

78 Local Refineries

There are now 78 refineries in the field, many of which were constructed this year when the owners saw there was but little danger of incurring trouble by overproducing and running such oil to their plants, and also operating their plants on oil purchased under the posted price. Several cracking units were erected at various plants in the field, the owners feeling they could realize greater dividends by recovering more gasoline from the crude than they could in the more simply constructed topping units. The plants have been running to capacity nearly all the year, but with a few of them shut down, and distress gasoline has been a problem in the field several times, much of such gasoline is being purchased by major units or others at different times.

New Casinghead Plants

Five casinghead gasoline plants were erected in the field during the year, the largest of which was the Sinclair Prairie Oil Co.'s plant in Gregg County and the Hanlon Gasoline Corp.'s plant northeast of Gladewater in the same county. The Lisbon Gasoline Corp. erected its second plant in the field, near Carlisle in Rusk County. The Hercules Gasoline Corp. built a plant just west of Kilgore in Gregg County and the Parade Gasoline Corp., formerly known as the Excelsior Gasoline Corp., extended its gathering lines 40 miles and increased the capacity of its plant near London in Rusk County. Another plant was moved in by the Murray Oil & Gas Co. in the southern end of the field, Rusk County, to process gas from a big dry gas well, and the Marr Drilling Co. started operating a small plant in the same area. Another casinghead plant is contemplated by the Hercules Gasoline Corp. in the northern part of Gregg County.

There were many sales of properties in the East Texas Field during the year, independents selling many smaller properties to major units throughout the six months period; two of the sales, however, ran into the millions and were the largest deals yet consummated in the field. The largest of these deals involved the properties of the East Texas Oil & Refining Co. This deal involved 255 gross wells with a daily allowable production of 9,000 bbls., the consideration being reported at around $11,000,000, part of which was in stock of the major unit making the purchase. The Magnolia Petroleum Co. of Dallas was the purchaser. Net wells involved were 162, and net acreage was 1,300, gross acreage being 2,300. However, previous to this deal the East Texas Oil & Refining Co. took over 250 acres with 34 wells from the Falcon Oil Co. which were also involved in the Magnolia purchase.

Another large purchase made in the field was by the Atlantic Oil Producing Co. from the American Liberty Oil Co. There were 125 wells on 25 leases covering 1,560 acres transferred in this deal which ran in the vicinity of $6,000,000, of which $1,600,000 was in cash and the remainder in oil. The same purchaser also took over the remaining interest in 187 acres and 15 wells from the Byrd-Frost Corp. of Dallas. This purchasing company was one of the largest buyers of producing properties in the field during the year.

Another deal which involved all the properties of Cranfill & Reynolds of Houston was the taking over of that company and all of its properties in the state by the General Crude Oil Co., formed by the Pew Estate which owns and controls the Sun Oil Co. Cranfill & Reynolds had many producing properties in East Texas, all of which are now carried under the name of General Crude Oil Co.

The Stanolind Oil & Gas Co. was a heavy purchaser of producing properties during the year, in most instances taking over smaller leases. One of the larger purchases it made was the south 200 acres of the W. C. Alvice Survey in Gregg County, including nine wells. Consideration was in the neighborhood of $400,000. The Woodley Petroleum Corp. was the vendor.

The latter part of June the American Liberty Oil Co. took over 64 producing wells on some 200 acres of leases in the Sabine River Bed owned by the State but under lease to the Rhoads Drilling Co. of Fort Worth. It was a stock transaction and the purchaser is required to drill eight more wells immediately. These tracts are in the heavy producing area of Gregg County, and therefore are especially valuable.

Courts Kept Busy

The first six months of the year saw the usual number of court fights, both district and federal, in regard to regulating production and transportation of oil in the field. This year the Railroad Commission won out in a three-judge federal court, and practically in every other skirmish that some independent operator brought against the Commission. February 12, the federal court upheld the state regulations of the Commission in the well known Amazon Petroleum Corp. and others' case previously tried in Houston. This paved the way for stronger enforcement of regulations in the field, but the Commission has made little use of these powers. In the fore part of May Federal Judge Randolph Bryant again strengthened the power of the Commission by deciding in favor of it in a case brought by the Arrow Refining & Producing Co. which asked for an injunction to restrain the Commission from enforcing two newly published orders pertaining to the inspection of and the making of refinery reports.

The federal court held for the plaintiffs, independent refiners and operators who attacked federal authorities in regard to regulating the production and transportation of oil from East Texas, except insofar as it pertained to interstate shipments. This decision tied the hands of the federal forces in the field, and they then could do nothing but wait until an appeal was heard by the United States Circuit Court of Appeals at New Orleans in April. That court reversed the decision of the three-judge federal court, returning power to the federal authorities with which they are entitled to inspect production, refining and transportation reports. After this decision was rendered the Government started hiring more men, and moving more men back into the field to make investigations. However, so far, no suits have been filed by the federal attorneys attacking violators. The federal forces are also making investigations to collecting information and data in regard to the new tax of one-tenth of a cent per barrel on all pro-

duced oil. This will give a double check on the violators.

One refiner was found in contempt of a federal court order and was sentenced to 90 days in jail the latter part of June, but he is now out on bond pending appeal. The court had ruled that he was not to overproduce his properties, and when the court found that he had disregarded that order the judge could do nothing but hold him in contempt and pass sentence.

Several refineries were thrown into receivership by the state during the year, principally for not paying taxes, in most cases, taxes on gasoline manufactured or sold. Some plants were thrown in the hands of receivers for disobeying court orders in regard to breaking state production regulations.

Many suits were filed and many tried in regard to overproducing, not making proper tenders for transportation, bypassing oil, and many other infractions of regulations, but outside of levying fines the state has realized but little in its fight against "hot oil" violators, and there seems but little chance that there will be a change during the next six months unless a new Oil and Gas Commission is elected by the state legislature.

EAST CENTRAL AND EAST TEXAS

Summary of Operations, First Six Months 1934

County—	Comp.	Prod.	Dry	Gas
Anderson	14	1,318	3	1
Angelina	1	0	1	0
Cherokee	3	114	1	0
Frees.one	2	0	2	0
Gregg	790	49,287	5	0
Henderson	7	0	7	0
Hunt	1	0	1	0
Kaufman	1	0	1	0
Leon	3	0	1	2
Limestone	3	0	3	0
Morris	1	0	1	0
Navarro	5	0	5	0
Nacogdoches	2	0	2	0
Rusk	623	36,879	6	3
Red River	1	0	1	0
Smith	97	5,011	2	0
Upshur	114	6,388	6	0
Van Zandt	21	1,090	9	0
Wood	1	0	1	0
Total	1,690	100,087	58	6

Summary of Operations by Months

Month—	Comp.	Prod.	Dry	Gas
January	249	15,517	10	0
February	251	15,387	11	1
March	252	15,412	7	2
April	253	15,069	6	1
May	328	16,523	12	0
June	357	22,179	12	2
Total	1,690	100,087	58	6
Same period 1933	913	53,999	83	1
Difference	777	46,088	25	5

Complete Eleven Hundred Wells in Penn. Grade Fields in First Half of Year

By ROBERT C. CONINE

Reflecting the increases in crude prices which have doubled since May, 1933, the Pennsylvania Grade fields registered a greater number of completions during the first six months of 1934 than in any similar period since 1930.

Two factors brought about the crude advances: Higher refined prices and depletion of stocks. As a result, the top price paid for Pennsylvania grade crude in May, 1933, $1.27, had advanced to $2.55 on May 1, 1934. That price meant a close approach to profitable operation in the northern fields with their lower lifting costs and in the fields of southeastern Ohio and West Virginia, where the average initial per producer was 18.8 bbls. compared to the average of 6.4 bbls. for the entire Pennsylvania grade crude area.

Bradford Led in Completions

The northern and southern extremities of the field, geologically favored above the rest, were the leaders in completions and initial production. Bradford ranked first in the number of completions, southeastern Ohio first and West Virginia second in the amount of initial production.

There were 1,100 completions in the fields for the first six months of 1934, more than two and one-half times the number during the first half of 1933. The proportion of initial production was even greater, amounting to 5,675 bbls. in the 1934 half to 1,429 bbls. for the same period of 1933. The average initial per producer in 1934 amounted to 6.4 bbls. and in 1933, 5.3 bbls.

Bradford was outstanding in the number of completions, its total of 664 far exceeding that of any other field in the grade area. West Virginia ranked second in this respect but 101 of its completions were gassers and 27 dry holes, whereas all the reported Bradford completions were producers.

S. E. Ohio Initial Large

Southeastern Ohio had the largest initial production, 2,228 bbls., but the average initial producer, 25 bbls., was 1.3 bbls. less than that of West Virginia. West Virginia's total initial was 1,737 bbls.

Bradford, Southeastern Ohio, West Virginia and Southwestern Pennsylvania all recorded large gains in the first half of 1934 over the first half of 1933, while Allegany, Venango-Clarion and Butler-Armstrong, the less active fields, declined slightly.

Southwestern Pennsylvania reported 47 completions, 17 of which were producers with an average initial of 26.6 bbls. The total initial production of the field was 453 bbls. compared to 62 bbls. in the first six months of 1933.

Storage Level Falling

Extreme cold weather and adverse working conditions in February and March retarded activity then but a steady gain was noted through April, May and June. June led all six months in the number of completions and in the amount of initial production.

The decrease in Pennsylvania grade crude stocks from December 31, 1933, level of 5,360,000 bbls., to 4,646,000 bbls. at the end of the week of June 16, indicates that there will be little let-up in field operations through the remainder of the year. The probability is that the increase in field operations which directly contrasted with the falling storage level since June, 1933, will be even more pronounced in the second half of 1934.

A summarized comparison of the Pennsylvania grade area for the first six months of 1933 and 1934 follows:

	Comp.	Prod.	Dry	Gas
Jan.-June, 1934	1,100	5,675	69	147
Jan.-June, 1933	419	1,429	46	104
Difference	681	4,246	23	43

A field by field comparison for the first half of 1933 and 1934 follows:

First Six Months, 1934

Field—	Comp.	Prod.	Dry	Gas
Bradford	664	1,185	0	0
Allegany	25	33	0	0
Venango-Clarion	21	21	0	5
Butler-Armstrong	8	18	1	0
S. W. Penna.	47	453	12	18
S. E. Ohio	141	2,228	29	23
West Va.	194	1,737	27	101
Totals	1,100	5,675	69	147

First Six Months, 1933

Field—	Comp.	Prod.	Dry	Gas
Bradford	170	331	0	1
Allegany	22	75	0	0
Venango-Clarion	29	35	3	10
Butler-Armstrong	14	22	2	2
S. W. Penna.	16	62	5	5
S. E. Ohio	59	486	17	18
West Va.	109	428	19	68
Totals	419	1,429	46	104

Completions by Months
First Half, 1934

Month—	Comp.	Prod.	Dry	Gas
January	174	718¼	15	27
February	162	699⅛	13	23
March	162	845¼	9	21
April	170	633	10	14
May	209	703	14	24
June	223	2,075¼	8	38
First half, 1934	1,100	5,674⅝	69	147
First half, 1933	419	1,429	46	104
Difference	681	4,246¼	23	43

Ask Us to Prove

THE SALVAGE

of WYATT WELDED STEEL TANKS in Field Storage . . . . . .

Because electric welding makes a storage tank one solid sheet of steel, there is a belief among some oil men that take-down and re-erection is impracticable.

The Wyatt Company has already moved electric welded tanks from one location to another. The records show that the salvage is equal to that of bolted tanks of the same size.

The welded tank is leak-proof and gas tight. It has already proved itself the tank most favored for large storage tanks. The same advantages apply to field storage tanks from 200 to 1,000 barrels. The Wyatt Company is prepared to give quick delivery and fast erection service.

We also offer welded gun barrels.

WYATT

METAL & BOILER WORKS

Capital $1,000,000

Plants at . . . DALLAS AND HOUSTON

Distributors:

Steel Tank Construction Co., Dallas, Texas.

West Texas and North Central Texas Areas Join In the General Increase in Field Development

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

The West Texas district staged a big "come-back" in the first six months of 1934, seeing more field and wildcat drilling than it has noted in the past three and a half years. Wildcats were put down in the majority of the counties making up the district, several of them drilling in quest of Ordovician production, with other wildcats contemplated to go to this deeper possible pay horizon which produces exceptionally high gravity oil, such as is found in the Ordovician wells of the Big Lake Field, Reagan County.

No wildcat Ordovician test has this year made a commercial producer in the district but the test of John M. Cooper (formerly George T. Wilson and others) No. 1 Page, in Sec. 40, Blk. L, G.H.& S.A. Survey, 9½ miles southeast of Eldorado, in Schleicher County, appears to have good chances for making a gasser if not an oil well. It encountered gas at 5,404 feet and picked up increases while drilling deeper, showing a considerable increase at 5,440 feet where the gas was estimated good for 3,000,000 feet per day. Top of the lime was logged at 5,337 feet.

The Humble Oil & Refining Co. has staked location for an Ordovician test in the same county, on the T. C. Meador land in Sec. 46, Blk. M, G.H.&S.A. Survey, about 10 miles northeast of Eldorado, and 13 miles north of the above mentioned test. This too will be an exceptionally interesting well due to deep oil and gas showings having been encountered in other deep tests drilled in the county, especially on the Wilson Ranch.

The most important features in the district during the first six months were four new wildcat areas opened to production, one semi-wildcat drilled in, the abandonment of one Ordovician test in Pecos County, the starting of two others in the district, and extensions and important developments in old pools. Successful treating of lime wells in many of the pools increased production in the majority of cases, making this one of the important developments during the fore part of the year. More and more acid treatments will be given wells in all the fields in the future. Some of the lime does not react successfully to cold acid, but when the acid is heated it generally results in success.

Ector County Led in Interest

Ector was the most closely watched county during the year. One wildcat was brought in and important extensions were registered in the North Cowden and Addis areas. C. J. Davidson's No. 1 Cummins in Section 10, Block 45, Township 1n, T.&P. Survey, in the extreme northwestern corner of the county, was the most important test drilled in the county the first six months. It has not yet been completed, but has already had sufficient showings of oil to prove it will make a commercial producer, opening the sixth separate pool for the county. It had oil showings at 4,267-75, 4,278-80, and 4,295-4,305 feet and is drilling ahead with a hole full of oil. Davidson is a well known drilling contractor of Fort Worth. This will be his first discovery. Gravity of the oil is about the same as the oil found in the other pools in the county. A pipe line will probably be laid from the North Cowden area, 12 miles to the east, by the Humble Pipe Line Co., as soon as the well is completed. Various companies and independents hold acreage around the Davidson test, which will probably cause the area to be developed rapidly during the year.

Other important strikes in the district are Humble Oil & Refining Co.'s No. 1 Kuykendall in Section 24, Block A-46, P.S.L. Survey, Andrews County, opening a new area southwest of the Deep Rock producers, and the same company's No. 1 Means in Section 2, Block A-35, P.S.L. Survey, approximately 12 miles northeast of the Deep Rock producers. Neither of these tests has been completed, but showings already made seem sufficient to prove them commercial producers. The Means test struck 1,500,000 feet of gas at 2,572 feet which blew tools up the hole, encountering gas at 2,773 and 2,-987 feet. The gas discovery caused the Humble company and individuals and other companies to start purchasing leases near the well on a north and northeast trend. This buying, still going on, is reaching through Yoakum, Cochran and Gaines Counties. Blocks have been taken for drilling, and much checkerboarding has taken place throughout these counties.

The Humble Oil & Refining Co.'s No. 1 Kuykendall, mentioned above, has been shot a couple of times, at 4,325-4,511 feet and it swabbed a small amount of oil with some sulphur water. Total depth is 4,511 feet and unless the water can be plugged off, and acid brings out a better well this test may not make a commercial producer of any importance, but will probably prove an extension to the Deep Rock Pool, or prove the discovery of a separate pool. It is located 2½ miles southwest of the older pool in which the wells were small, and which but recently received a pipe line outlet. As soon as the Kuykendall and Means tests prove producers the Humble Pipe Line Co. will extend its gathering line to those two areas, having about 12 miles of pipe to run to the Means well, and but a short connection to lay to the Kuykendall well.

Eastern Extension

The Ford area, southwest of the Deep Rock area, also received a good producer this year when the company opening the pool drilled an eastern extension well. It proved the best well of the pool. It made 400 bbls. per day at total depth of 4,493 feet before it was thoroughly cleaned. It is located in Section 25, Block A-43, P.S.L. Survey, and is owned by the Furhman Petroleum Corp., which opened the pool about three years ago. Before completing it was shot with 430 quarts from 4,170 to 4,481 feet. Other drilling in this area will result from the completion of this test. The Humble Pipe Line Co.'s line laid from the North Cowden area of Ector County, served to bring about the drilling of the late good well,

West Texas

Daily Average and Monthly Production First Six Months of 1934

Pool and County—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
OGDEN, ANDREWS:							
Daily average	430	429	430	427	430	432	
Month	13,330	12,012	13,330	12,810	13,330	12,960	77,772
CHURCH-FIELDS AND McCAMEY, CRANE:							
Daily average	11,140	11,938	11,996	12,131	12,605	12,570	
Month	345,340	334,264	371,845	363,930	390,755	377,100	2,183,234
SAND HILLS, CRANE:							
Daily average	38	53	45	39	34	39	
Month	1,178	1,484	1,395	1,170	1,054	1,170	7,451
TODD, CROCKETT:							
Daily average	.....	15	15	13	14	13	
Month	.....	420	465	360	434	390	2,069
WORLD, CROCKETT:							
Daily average	604	597	720	750	747	742	
Month	18,724	16,716	22,320	22,500	23,157	22,260	125,677
COWDEN, ECTOR:							
Daily average	881	6,250	1,058	1,102	1,096	1,088	
Month	27,311	175,000	32,798	33,090	33,976	32,640	334,815
ADDIS, ECTOR:							
Daily average	556	556	672	698	703	707	
Month	17,236	15,568	20,832	20,940	21,793	21,210	117,579
BOREN, GARZA:							
Daily average	20	19	25	20	19	18	
Month	620	532	775	600	589	540	3,656
CHALK-ROBERTS, HOWARD-GLASSCOCK:							
Daily average	13,859	13,797	17,749	18,685	18,576	18,706	
Month	429,629	386,316	550,219	560,850	575,856	561,180	3,064,050
TANKERSLEY, IRION:							
Daily average	54	54	53	58	72	69	
Month	1,674	1,512	1,643	1,740	2,232	2,070	10,871
WHEAT, LOVING:							
Daily average	2,170	2,240	2,382	2,494	2,464	2,477	
Month	67,270	67,720	73,842	74,820	76,384	74,310	423,346
IATAN, MITCHELL:							
Daily average	1,342	1,409	1,169	1,016	1,447	1,426	
Month	41,602	39,452	36,239	30,480	44,857	42,780	235,710
COURTNEY, PECOS:							
Daily average	.....	15	15	.....	.....	.....	
Month	.....	420	465	.....	.....	.....	885
MASTERSON, PECOS:							
Daily average	17	24	26	27	67	61	
Month	527	672	806	810	2,077	1,830	6,722
PECOS VALLEY, PECOS:							
Daily average	249	242	267	273	309	302	
Month	7,719	6,776	8,277	8,190	9,579	9,060	49,601
TAYLOR-LINK, PECOS:							
Daily average	610	660	1,176	1,250	1,242	1,240	
Month	18,910	18,480	36,456	37,500	38,502	37,200	187,048
YATES, PECOS:							
Daily average	42,479	42,475	42,488	43,487	47,563	46,912	
Month	1,316,849	1,189,300	1,317,128	1,304,610	1,474,453	1,407,360	8,009,700
McCAMEY, UPTON:							
Daily average	3,718	3,716	3,725	3,798	4,111	4,084	
Month	115,258	104,048	115,475	113,940	127,441	122,520	698,682
GRAND FALLS, WARD:							
Daily average	3,557	3,838	4,615	4,806	4,809	4,793	
Month	110,267	107,464	143,065	144,180	149,079	143,790	797,845
O'BRIEN, WARD:							
Daily average	2,187	2,456	3,299	3,618	3,713	3,714	
Month	67,797	68,768	102,269	108,540	115,103	111,420	573,897
HENDRICK, WINKLER:							
Daily average	18,189	18,198	18,193	18,108	17,940	18,007	
Month	563,859	509,544	563,952	543,240	556,140	540,210	3,276,945
NORTH WINKLER, WINKLER:							
Daily average	1,511	1,404	1,697	2,202	2,604	2,609	
Month	46,841	39,312	52,607	66,060	80,724	78,270	363,844
BIG LAKE, REAGAN:							
Daily average	14,525	13,606	13,900	13,847	13,548	12,947	
Month	450,275	380,968	430,900	415,410	419,988	388,410	2,485,951
PENN, ECTOR:							
Daily average	5,328	5,250	5,959	6,136	6,039	6,105	
Month	162,068	147,000	184,729	185,580	189,069	183,150	1,051,596
Daily average	123,384	129,241	131,673	135,046	140,212	139,071	133,121
Total first six months 1934	3,824,284	3,618,748	4,081,833	4,051,380	4,346,572	4,172,130	24,094,946
Total first six months 1933	4,921,994	4,455,612	5,079,691	4,875,600	4,921,948	4,913,940	29,228,785
Total first six months 1932	5,784,135	4,991,045	5,538,137	5,551,500	5,624,237	5,328,870	33,807,924
Total first six months 1931	6,817,675	6,813,660	7,291,190	7,062,640	6,404,972	6,360,510	40,690,647
Total first six months 1930	10,608,852	9,574,215	10,412,647	9,436,801	9,661,721	9,130,230	58,824,487
Total first six months 1929	11,230,341	9,966,066	11,609,104	10,599,734	10,990,232	10,987,533	65,532,126
Total first six months 1928	8,321,701	9,036,196	10,380,877	11,149,642	9,972,668	9,947,780	58,309,778
Total first six months 1927	2,126,262	1,857,800	2,231,510	2,752,080	3,514,925	3,233,150	15,915,827

and will also be an incentive for the drilling of other tests on offset acreage.

Addis and North Cowden Extensions

Development of the Addis and North Cowden areas of Ector County, and the extension of those pools in various directions, were interesting activities during the year. It is still a question whether or not the two pools will unite and form a field about 18 miles long from north to south.

One Well to 40 Acres

Both pools are under proration, and during the latter part of June a new plan for developing the North Cowden area was accepted by those holding acreage in it. The plan is to drill 1 well to each 40 acres.

During the year the Humble Pipe Line Co. extended a gathering line from the Penn Pool to the northeast into the Addis and North Cowden areas, giving these two pools their first pipe line outlets. However, the former pool had a short line connecting with a loading rack on the Texas & Pacific Railroad prior to that time, and was shipping out some oil by that outlet.

WEST TEXAS
Summary of Operations, First Six Months
1934

County—	Comp.	Prod.	Dry	Gas
Crane	1	371	0	0
Ector	17	4,394	3	0
Fisher	8	3,680	2	0
Gaines	1	0	1	0
Glasscock	21	16,655	2	0
Howard	20	6,233	1	0
Hudspeth	1	0	1	0
Irion	3	30	2	0
Jones	8	1,863	3	0
Loving	9	735	2	0
Menard	1	0	1	0
Pecos	29	738,401	1	0
Reagan	3	804	1	0
Runnels	7	1,782	3	0
Sterling	1	0	1	0
Tom Green	3	0	3	0
Upton	4	483	0	0
Ward	54	15,432	7	1
Winkler	15	2,891	0	2
Total	206	793,654	33	3

Summary of Operations by Months

County—	Comp.	Prod.	Dry	Gas
January	41	129,485	8	1
February	34	77,971	7	0
March	29	164,671	9	0
April	25	88,115	3	1
May	37	112,763	6	1
June	40	220,649	0	0
Total	206	793,654	33	3
Same period 1933	127	24,083	29	0
Difference	79	769,571	4	3

New Pool in Crane County?

Wahlenmaier and others' No. 1 W. P. Edwards, located in the north central part of Crane County, a couple of miles east of the small Waddell Pool, and in Section 12, Block B-23, P.S.L. Survey, is still swabbing, but promises the opening of another pool, or extension to the Waddell Pool. It is now making only 40 bbls. every other day after being shot with 210 quarts from 3,490 to 3,525 feet. It was formerly plugged back from 3,720 feet to shut off sulphur water. Gravity of the oil is similar to the rest of the oil found in Crane County, and also is sulphur impregnated like the other oils found in the Permian Basin.

Gulf Production Co. reworked and treated with acid its No. 1 Tubbs, single producer on the west edge of Crane County, during the year and made an 80-bbl. well out of it after it had stopped flowing because of cavings and tools in the hole. Total depth is 4,342 feet. It was brought in about three years ago and was a singular well due to the fact that the oil was found below the sulphur water stratum, something new for this basin. It is located in Section 8, Block B-27. No other producers have yet been brought in around it although Loffland Brothers have one test to the north, standing shut down, this test contemplated drilling for the Tubbs pay but has not found it so far.

Ward County's Activity

Ward County was one of the most, if not the most active county in the district from a field drilling standpoint during the first six months. The Grand Falls, or southern producing area, saw many wells put down, a number of them expanding the area in various directions, especially to the north and northwest. It is expected the field will be expanded still farther during the next six months as outpost tests prove more acreage to production. The Gulf-Hutchings area was also extended, and some good wells were brought in in that area, which is located near the Winkler County line, or in the northern part of Ward.

Big Wells in Yates Pool

A number of wells were completed in the Yates Field, Pecos County, during the year. Tests on the Turner Vacancy Strips were completed and offsets drilled to them. Some of the wells were exceptionally large, giving ample proof that pressures in the better part of the field are still high, and that the potential is not overrated.

The north Winkler area also saw an active drilling period during the six months, several good wells and extensions having been completed in that area, which proved up more acreage to production, and increased the potential for the county.

The western extension of the Howard-Glasscock areas saw much drilling, good wells and extensions increasing the potential and importance of this area. Acid treatment of the wells proved successful in some cases, but failed in other cases, although heated acid seemed to work fairly well and increased production in wells where cold acid refused to react successfully. The Dodge-Denman area saw the completion of several wells. This is a small pool located on the eastern edge of Howard County.

Fisher County also saw the completion of some exceptionally good wells, these lime wells reacting very favorably to acid treatment, causing the production to increase to a much greater volume than the initial production of wells formerly completed without acid treatment.

Wells in the McCamey Field, Crane-Upton County, that had practically

North Texas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
WICHITA COUNTY:							
Burkburnett—							
Daily average	3,206	3,155	3,007	3,098	3,107	3,088	
Month	99,386	88,340	93,217	92,940	96,317	92,640	562,840
Electra—							
Daily average	7,396	7,473	7,536	7,786	7,342	7,750	
Month	229,276	209,244	233,616	233,580	227,602	232,500	1,365,818
Iowa Park—K.M.A.—							
Daily average	2,088	2,233	2,173	2,191	2,219	2,246	
Month	64,728	62,524	67,332	65,730	68,789	67,380	396,483
Sunshine Hill—							
Daily average	455	449	413	404	473	463	
Month	14,106	12,572	12,803	12,120	14,663	13,860	80,123
Miscellaneous—							
Daily average	2,205	2,252	2,326	2,268	2,394	2,366	
Month	68,355	63,056	72,106	68,040	74,214	70,980	416,751
ARCHER COUNTY:							
Daily average	16,351	17,131	18,352	19,112	19,026	18,779	
Month	506,881	479,668	568,912	573,360	589,806	563,370	3,281,997
CLAY COUNTY:							
Daily average	528	560	558	561	559	554	
Month	16,368	15,680	17,298	16,830	17,329	16,620	100,125
WILBARGER COUNTY:							
Daily average	8,027	8,367	8,435	8,138	8,241	8,262	
Month	248,837	234,276	261,485	243,840	255,571	247,860	1,494,869
MONTAGUE COUNTY:							
Daily average	4,131	4,458	4,409	4,497	4,471	4,480	
Month	128,061	124,824	136,679	134,910	138,601	134,400	797,475
YOUNG COUNTY:							
Daily average	9,408	10,004	10,330	10,565	10,549	10,117	
Month	291,648	280,112	320,230	316,950	327,019	303,510	1,839,469
BAYLOR COUNTY:							
Daily average	203	255	260	232	241	239	
Month	6,293	7,140	8,060	6,960	7,471	7,170	43,094
COOKE COUNTY:							
Daily average	1,610	1,577	1,620	1,594	1,580	1,576	
Month	49,910	44,156	50,220	47,820	48,980	47,280	288,366
FOARD COUNTY:							
Daily average	550	816	815	817	575	535	
Month	17,050	22,848	25,265	24,510	17,825	17,640	125,138
Daily average	56,158	58,730	60,233	61,253	60,877	60,507	59,627
Total first six months 1934	1,740,898	1,644,440	1,867,223	1,837,590	1,887,187	1,815,210	10,792,548
Total first six months 1933	1,568,693	1,424,220	1,566,120	1,538,340	1,520,023	1,404,090	9,021,486
Total first six months 1932	1,587,262	1,557,764	1,624,803	1,573,350	1,654,635	1,620,540	9,618,374
Total first six months 1931	1,997,361	1,680,504	1,876,306	1,790,400	1,809,873	1,771,680	10,926,124
Total first six months 1930	2,768,393	2,563,792	2,860,587	3,053,580	3,153,351	3,043,028	17,442,731
Total first six months 1929	2,794,619	2,412,788	2,760,705	2,729,250	2,793,286	2,759,550	16,250,198
Total first six months 1928	2,441,002	2,247,790	2,483,100	2,405,970	2,600,569	2,647,207	14,825,638

Central Texas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
BROWN COUNTY:							
Daily average	2,337	2,418	2,497	2,415	2,410	2,417	
Month	72,447	67,704	77,407	72,450	74,710	72,510	437,228
CALLAHAN COUNTY:							
Daily average	1,556	1,720	1,725	1,727	1,836	1,797	
Month	48,236	48,160	53,475	51,810	56,916	53,910	313,507
COLEMAN COUNTY:							
Daily average	1,615	1,422	1,536	1,404	1,361	1,370	
Month	50,065	39,816	47,616	42,120	42,191	41,100	263,908
COMANCHE COUNTY:							
Daily average	720	768	700	697	716	711	
Month	22,320	21,504	21,700	20,910	22,196	21,330	129,960
EASTLAND COUNTY:							
Daily average	2,615	2,660	2,725	2,723	2,717	2,866	
Month	81,065	74,480	84,475	81,660	84,227	85,980	491,887
FISHER COUNTY:							
Daily average	3,285	3,366	3,500	3,540	3,904	3,942	
Month	101,835	94,248	108,500	106,200	121,024	118,260	650,067
HASKELL COUNTY:							
Daily average	26	25	24	25	22	23	
Month	806	700	744	750	682	690	4,372
JACK COUNTY:							
Daily average	1,482	1,475	1,554	1,306	1,552	1,490	
Month	45,942	41,300	48,174	39,180	48,143	44,700	267,439
JONES COUNTY:							
Daily average	2,042	2,263	2,503	2,196	2,077	2,411	
Month	63,302	63,084	77,593	65,880	64,387	72,330	406,576
PALO PINTO COUNTY:							
Daily average	404	394	387	372	403	398	
Month	12,524	11,032	11,997	11,160	12,493	11,940	71,146
RUNNELS COUNTY:							
Daily average	435	1,122	740	724	681	702	
Month	13,485	31,416	22,940	21,720	21,111	21,060	131,732
SHACKELFORD COUNTY:							
Daily average	4,146	5,010	5,142	5,181	5,367	5,466	
Month	128,526	140,280	159,402	155,430	166,377	163,980	913,995
STEPHENS COUNTY:							
Daily average	5,461	5,792	5,757	5,509	5,715	5,711	
Month	169,291	162,176	178,467	165,270	177,165	171,330	1,023,699
TAYLOR COUNTY:							
Daily average	192	152	160	126	154	149	
Month	5,953	4,256	4,960	3,780	4,774	4,470	28,192
THROCKMORTON COUNTY:							
Daily average	620	684	703	604	544	557	
Month	19,530	19,152	21,793	18,120	16,864	16,710	112,169
Daily average	26,946	29,261	29,653	28,548	29,460	30,010	28,973
Total first six months 1934	835,326	819,308	919,243	856,440	913,260	900,300	5,243,877
Total first six months 1933	687,359	631,260	698,678	664,980	676,420	610,350	3,969,547
Total first six months 1932	644,118	636,488	666,128	647,130	680,481	661,440	3,935,785
Total first six months 1931	652,356	628,516	669,600	693,960	741,768	716,370	4,103,570
Total first six months 1930	1,236,689	1,197,784	1,253,702	1,220,510	1,218,176	1,172,640	7,299,501
Total first six months 1929	1,574,422	1,368,304	1,515,249	1,451,820	1,539,057	1,471,350	8,930,363
Total first six months 1928	1,402,764	1,281,096	1,465,029	1,423,150	1,477,119	1,473,111	8,631,269

ceased producing, were treated with acid, the majority of them reacting favorably. This is an old lime producing field, wells making but a small amount of production, with a large amount of water, consequently acid treatment was a great boon to the producers.

Many blocks of acreage, much checkerboarded acreage, and renewed activity marked a turning point in the history of the basin during the year, and the next six months still more activity is expected for the many counties situated in the big district.

Revival in Runnels County

The McMillan Pool of Runnels County saw renewed activity during the year, independents testing acreage around the old wells drilled about six years ago. The pool was extended to the north and northwest and northeast, one well, Agnew and Sons' No. 1 Fowler, in Section 23, N. Travis Survey, No. 533, coming in as the best well in the pool, making 672 bbls. per day of 45 gravity oil at a total depth of 2,537 feet. Drilling continues in the small area, the pool having been defined on three sides. The greater part of the oil is being shipped out to Canadian refineries, bringing a bonus because of its high gravity and type. Two small refineries located nearby, are using some of the oil. The pool is producing from a sand, and the oil is "sweet," one of the few pools producing "sweet" oil in the district.

WICHITA FALLS AND RANGER DISTRICTS

North Central Texas

The Wichita Falls district experienced its second boom during the first six months, this boom being referred to as an "acid boom," due to the fact that acid treatment of lime wells so increased production in the majority of all newly drilled wells, and brought old lime wells back on production, stepping up the crude oil output in many of them, bringing profits out of wells which they had almost given up.

Many new lime areas were opened and others were extended during the year, some of the extensions and new pools reaching considerable importance, whereas other extensions and pools were not of such large caliber. Areas which had been producing from the sand saw wells deepened and produced from the lime, whereas other fields which had seen the sand drained also saw the moving in of other rigs to test for lime production, many of these proving productive from the lime.

New Pool in Jack County

C. S. Leidecker's No. 1 O. Loving, in T.E.&L. Survey No. 274, Jack County, opened another pool or extended production 9,000 feet north and east the middle of February when it logged oil sand from 3,218-21 feet and made 198 bbls. in 12 hours. The Bryson Pool is the nearest production to it.

Golding & Cochran's No. 4 G. W. Lauster, in the S.P.R.R. Survey, Archer County, opened up another lime producing area in an old sand producing sector of the county, the forepart of March when it was completed good for 200 bbls. at 1,284 feet. Another lime pool for the county was added by Hazel B. Sparks on the Ward ranch in the S half of T. E.&L. Survey No. 1,382. It logged sandy lime from 951-62 feet and after treating with acid made 100 bbls. initial production.

Archer Very Active

The Bell County School Lands, Falls County School Lands and Anderson Ranch Surveys saw the brunt of the drilling and acidizing in Archer County, the most active area in North Central Texas. It was in these fields that the best wells of the year were completed. As an example of what acid accomplished in many wells in these areas Continental Oil Co.'s No. 3-E Falls, in the S half of Block 18, Falls County School Lands Survey, may be mentioned. This test came in for 85 bbls. an hour after treating with 1,000 gallons of acid, with a 130-bbl. top oil load, no pressure being used. It topped the lime at 1,097 feet and was completed at a total depth of 1,117.5 feet.

R. W. Busby and associates started a campaign of development on the J. L. Anderson ranch, north of Olney, in Block 18, South Anderson Ranch, Archer County, when they drilled in a 2,000-bbl. well from lime logged at 1,406-23 feet. It had been treated with 2,000 gallons of acid. This well is located 5,000 feet north of the old Swastika sand pool.

NORTH CENTRAL TEXAS

Summary of Operations, First Six Months 1934

County—	Comp.	Prod.	Dry	Gas
Archer	535	70,983	147	0
Brown	36	369	22	4
Callahan	20	82	14	3
Clay	9	100	7	0
Coleman	13	273	4	4
Comanche	1	0	1	0
Cooke	9	75	6	0
Denton	2	0	2	0
Eastland	11	85	1	5
Foard	1	2,000	0	0
Jack	29	1,551	15	1
Montague	28	1,846	14	1
McCulloch	1	0	1	0
Palo Pinto	12	120	5	3
Parker	3	0	2	1
Shackelford	90	2,106	39	0
Stephens	2	10	1	0
Throckmorton	4	14	3	0
Taylor	1	0	1	0
Wichita	53	1,438	30	0
Wilbarger	29	4,239	8	0
Wise	2	0	2	0
Young	189	6,088	90	1
Total	1,080	91,379	415	23
Same period 1933	465	10,381	299	19
Difference	615	80,998	116	4

Summary of Operations by Months

Month—	Comp.	Prod.	Dry	Gas
January	150	12,029	54	6
February	149	10,553	66	6
March	140	10,312	45	0
April	175	16,212	63	2
May	252	23,110	106	9
June	214	19,163	81	0
Total	1,080	91,379	415	23

Beavers and others' No. 1 Remington, in the Texas Immigration Lands, 8 miles south of Olney in Young County, opened a new pool during the forepart of the year when it came in making 40 bbls. per day from lime at 560-70 feet.

Seitz and Dillard's No. 1 Hott, in the southeast corner of the north half of the Ed O'Connor Survey, logged oil sand from 1,611-18 feet and extended production from the Bulcher Pool in northwest Cooke County. The well is located on the east line of Montague County. It started more drilling in that area, some of the tests proving dry, whereas others expanded the new area.

Good Well in Foard County

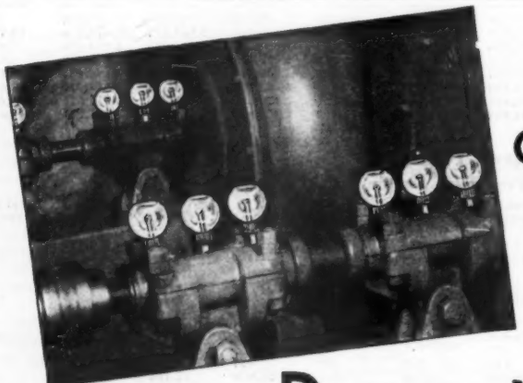
Texas Co. completed its second large high gravity producing well, No. 4 Les K. Johnson, on the western edge of Foard County, in the forepart of June. This well is also located in Section 36, Block L, S.P.R.R. Survey, and made between 75 and 85 bbls. per hour through open casing equipped with 2-inch flow line, connections cutting down the output. Total depth is 3,589 feet. Gravity of the oil is 45.2 degrees. The company is now drilling another test in the same section. A gasoline plant was erected near the discovery well this year to process the wet gas coming from the well, the gas being piped to a loading rack and shipped out via tank cars.

Blocks have been taken for several wildcats in Foard County, and Baker, Jones and Stasney are now drilling on a test north of Crowell in the county, the latter two men working the geology and assembling the block. The test is carried on the Panhandle drilling reports in The Oil and Gas Journal. It is located on the J. W. Beverly farm in Section 36, Block L, S.P.R.R. Survey.

One of the largest deals consummated in the Wichita Falls district for several years was the purchase by the Fain-McGaha Oil Corp. of Wichita Falls of a lease including 160 acres with 10 wells and another lease of 327 acres with 11 wells, in the Joseph Levin Survey, in the lime producing area of Archer County, for a consideration of $475,000, of which $250,000 was in cash and the remainder out of one-half of the oil.

Grass Roots Pool

A "grass roots" pool, approximately 12



VISIBILITY
CLEANLINESS
ECONOMY

Dependable Lubrication

Fig. 1815
Bottle Oiler

The Bottle Oiler finds ready application in virtually every industry for the lubrication of shafting and bearings.

It feeds only when the shaft is in motion, uniformly distributing the right amount of oil for efficient lubrication. It provides a dependable supply of oil for long periods of time and eliminates oil waste and time lost by hand oiling.

May we send the Bottle Oiler booklet No. 532?

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO BOSTON
PHILADELPHIA SAN FRANCISCO
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

The "Alvor" is designed to automatically maintain a constant oil level in ring oiled bearings or anti-friction bearings suitable for oil bath lubrication.

It insures against failure of oil supply and consequent costly shutdown of equipment. Oil waste is eliminated as it feeds only enough oil to maintain the required constant level in the bearing.

May we send the "Alvor" booklet No. 595?

Fig. 1834 "Alvor"
Constant Level Oil Control

LUNKENHEIMER LUBRICATING DEVICES

22-40-91

NEW

type "S"

dual-action
PRESSURE
SUCTION
perforation
washer

●

AFTER MONTHS OF SERVICE— & BARRELS OF RESULTS WE POINT WITH PRIDE TO THE RECORDS OF ACHIEVEMENT FOR THIS NEW ADDITION TO OUR FAMILY OF SUCCESSFUL OIL WELL CLEANING TOOLS.

●

GLADLY WILL WE REPLY TO YOUR WIRES, MESSAGES OR WHISTLES *for more information* OR SIMPLY WRITE IN YOUR OWN NATIVE WAY TO

O. P. YOWELL SERVICE CO.
342 Petroleum Securities Bldg.,
Los Angeles, California, U.S.A.

miles northwest of Jacksboro, was opened in April, leading to considerable activity in the area. McDaniel and others found the pool on the J. M. Bloodworth lands in the J. Irvine Survey. Production is coming from the Tack sand below the Gunsight lime, around 280 feet, the wells are of various capacity from 25 bbls. up to 120 bbls. per day, pumping, water well pumping equipment being used in lifting the oil which tested 41 degrees A.P.I.

Coleman County Discovery

The Eppenauer Drilling Co. of San Angelo, opened up another Fry sand producing area, 1½ miles northwest of the Brenecke Pool and 3 miles northwest of Santa Anna in Coleman County during the year. The well logged the Fry sand

(Continued on Page 104)

Old Central West Field Had Revival of Field Work in First Half of the Year

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

The old Central West Fields of Lima, Central Ohio, Indiana and Illinois enjoyed a greatly improved first half year in 1934, compared with the same period the year previous. Better prices for oil prevailed and a greatly increased drilling campaign was carried on, resulting in the completion of 422 wells as against 248 for the same period last year, and more than double the initial production.

In the Central Ohio Field the completions totaled 137 more than in the same period last year; in Lima they were 17 more; Indiana 19 more and Illinois 1 well more than in the first half of 1933.

Kentucky lagged somewhat and completed 2 fewer wells and considerably less initial production.

Following is the summary of the half year's work by county and month:

CENTRAL WEST
Field Operations for the First Half of 1934

Field—	Comp.	Prod.	Dry	Gas	Old Wells Abd.
Lima	57	633	24	9	175
Central Ohio	264	2,098	63	124	1
Indiana	92	949	43	18	14
Illinois	9	27	5	1	25
First half 1934	422	3,707	135	152	215
First half 1933	248	1,695	68	113	103
Difference	174	2,012	67	39	112

CENTRAL OHIO FIELD
Summary of Wells Completed First Half of 1934

Month—	Comp.	Prod.	Dry	Gas	Abd.
January	42	253	7	28	0
February	35	279	9	15	1
March	44	286	9	20	0
April	28	315	6	13	0
May	50	332	13	22	0
June	65	633	19	26	0
First half 1934	264	2,098	63	124	1
First half 1933	127	544	31	73	0
Difference	137	1,654	32	51	1

Summary by Counties

County—	Comp.	Prod.	Dry	Gas.	Abd.
Ashland	7	37	2	1	0
Medina	32	336	3	1	0
Lorain	13	27	5	5	0
Holmes	5	119	0	2	0
Fairfield	6	0	1	5	0
Knox	10	192	3	5	0
Coshocton	11	675	1	0	0
Licking	29	423	7	7	0
Muskingum	11	148	3	4	0
Athens	12	4	2	9	0
Tuscarawas	6	5	1	4	0
Stark	42	0	5	37	0
Belmont	17	0	10	7	0
Guernsey	31	131	9	16	0
Carroll	1	0	1	0	0
Vinton	8	1	2	6	0
Lawrence	1	0	1	0	0
Wayne	3	0	2	1	0
Summitt	2	0	1	1	0
Huron	2	0	0	2	1
Cuyahoga	1	0	1	0	0
Meigs	12	0	1	11	0
Gallia	1	0	1	0	0
Geauga	1	0	1	0	0
First half 1934	264	2,098	63	124	1
First half 1933	127	544	31	73	0
Difference	137	1,554	32	51	1

INDIANA FIELD

Month—	Comp.	Prod.	Dry	Gas	Old Wells Abd.
January	17	105	6	7	8
February	20	114	10	4	0
March	9	40	5	1	1
April	11	15	4	3	1
May	14	280	7	2	4
June	21	395	11	1	0
First half 1934	92	949	43	18	14
First half 1933	73	368	26	25	7
Difference	19	581	17	7	7

Summary by Counties

County—	Comp.	Prod.	Dry	Gas.	Abd.
Gibson	13	435	3	0	0
Pike	16	117	6	1	9
Sullivan	3	0	1	2	0
Daviess	3	0	1	2	1
Warrick	1	0	1	0	2
Spencer	2	0	2	0	0
Perry	16	63	6	2	0
Harrison	2	0	0	2	0
Jay	4	0	0	4	0
Knox	10	30	7	2	2
Martin	1	0	1	0	0
Vanderburg	27	279	13	0	0
Madison	2	0	0	2	0
Hendricks	1	0	1	0	0
Randolph	1	0	0	1	0
Posey	1	25	0	0	0
Monroe	1	0	1	0	0
First half 1934	92	949	43	18	14
First half 1933	73	368	26	25	7
Difference	19	581	17	7	7

ILLINOIS FIELD
Summary of Wells Completed First Half of 1934

Month—	Comp.	Prod.	Dry	Gas	Old Wells Abd.
January	1	0	1	0	9
February	0	0	0	0	2
March	2	15	1	0	0
April	2	7	0	1	3
May	3	5	2	0	11
June	1	0	1	0	0
First half 1934	9	27	5	1	25
First half 1933	8	15	5	1	9
Difference	1	12	0	0	16

Summary by Counties

County—	Comp.	Prod.	Dry	Gas.	Abd.
St. Clair	0	0	0	0	4
Coles	1	0	1	0	0
Wabash	3	15	1	0	9
Lawrence	0	0	0	0	7
Fayette	1	0	1	0	0
Crawford	2	0	1	1	5
Clark	3	12	0	0	0
Clinton	1	0	1	0	0
First half 1934	9	27	5	1	25

LIMA FIELD
Summary of Wells Completed First Half of 1934

Month—	Comp.	Prod.	Dry	Gas	Abd.
January	6	10	1	3	28
February	12	125	6	2	14
March	4	160	1	0	12
April	11	60	6	1	18
May	7	114	1	1	69
June	17	164	9	2	34
First half 1934	57	633	24	9	175
First half 1933	40	768	6	15	87
Difference	17	135	18	6	88

Summary by Counties

County—	Comp.	Prod.	Dry	Gas.	Abd
Wood	1	0	1	0	64
Hancock	5	100	3	0	3
Allen	2	60	0	0	12
Darke	1	0	0	1	0
Auglaize	0	0	0	0	0
Mercer	0	0	0	0	0
Sandusky	6	0	5	1	66
Lucas	0	0	0	0	5
Ottawa	0	0	0	0	12
Van Wert	7	157	2	0	10
Seneca	3	1	1	1	0
Wyandot	25	306	9	4	0
Hardin	3	4	0	2	0
Shelby	3	5	2	0	3
Marion	1	0	1	0	0
First half 1934	57	633	24	9	175

KENTUCKY FIELDS
Summary of Wells Completed First Half of 1934

Month—	Comp.	Prod.	Dry	Gas
January	3	2	1	1
February	13	93	5	0
March	17	634	7	0
April	8	584	2	0
May	14	300	5	1
June	21	224	12	0
First half 1934	75	1,837	32	2
First half 1933	77	2,677	38	3
Difference	2	840	6	1

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Ohio	38	300	17	1
Daviess	2	20	1	0
Hancock	12	336	6	0
Muhlenberg	1	6	1	0
Henderson	3	68	0	0
McLean	9	1,110	0	0
Allen	6	3	3	1
Warren	2	0	2	0
Barren	2	0	2	0
First half 1934	75	1,837	32	2

IMPROVED
MILLER
SAND PUMP

The MILLER has always done the job quicker and at lowest cost, cleaning out enormous quantities of loose and paraffine clogged sand and mud, increasing production. But, now we have improved it with the new Rope Socket Neck Bail, constructed to allow neck to be unscrewed from the bail, allowing easy removal of socket and wire line, without cutting each time the line is removed from the pump.

In the Improved MILLER SAND PUMP the bail and bottom bushings are electric welded to tube, the ball and seat in the plunger gives more efficient suction, the heavier gauge tube lasts longer and the nickel alloy in the plunger makes it wear longer.

The Improved MILLER SAND PUMP lasts longer, costs less and cleans out faster than any similar tool. Get the MILLER and it will get the job done for YOU, quicker—often paying for itself on one well.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet.

4 *type* BOTTOMS

Star, Sand Pump, Bailer and Chisel, fit the one pump to all conditions encountered.

SAND PUMP
Used when tools are run and when well is shot to quickly remove loose material.

CHISEL (in pump)
Will save the expense of running tools and its chisel shape breaks up tightly packed sands.

MILLER SAND PUMPS ARE SOLD BY ALL LEADING SUPPLY COMPANIES.

Write for Descriptive Folder and Price List.

Member American Petroleum Equipment Suppliers Association

MILLER
Sand Pump Co.
General Office and Plant:
SAPULPA, OKLAHOMA, U. S. A.

(Continued from Page 103)

at 1,872-76 feet and was drilled to 1,882 feet making 120 bbls. per day.

In Brown County

Petroleum Oil Interest's No. 1 R. A. Thompson, in the northwest corner of the Jarcia Montez and Duran Survey, 8 miles east of the Fry Pool extension in Brown County, opened another producing area in that county when it logged the Fry sand at 1,327-29 feet and made 2 bbls. per hour with 1,500,000 feet of gas.

E. N. Shaffner, of Brownwood, opened another area for Brown County, 2 miles northeast of the Byrd's Store Pool, developed in 1918-20. The new producer is located on the Mary Bowden farm in the northeast corner of the W. E. Gilliland Survey 138. It logged saturated lime at 2,428-53 feet and made 90 bbls. in 12 hours after being treated with acid. Before treating, it was only good for 25 bbls. per day.

Many blocks have been taken throughout the two districts, in practically every county, and these blocks will be tested, many of them, within the next six months. Many of the blocks were taken for shallow tests, but other blocks have also been taken for deep lime horizon tests. Major companies have also taken renewed interest in the two districts, farming out acreage to independents for drilling, and taking blocks in their own names for future tests.

Open Seven New Pools in Texas-Louisiana Area

(Continued from Page 85)

the new 4,500-foot sand picked up a 4,000-foot sand which had been missed by the Gulf well and at a total depth of 4,016 feet was completed in April as an 800-bbl. producer. This sand is looked upon as being in the top of the marine Oligocene and entirely different from the sand in the other wells. The gravities of the oil also are not the same, the 4,500-foot oil being 32 A.P.I. while the 4,000-foot oil is 27.9 A.P.I.

Of particular interest now is the deep test which Humble Oil & Refining Co. is drilling east of the field and which is expected to go to 10,000 feet.

At West Columbia, Brazoria County, Miramar Oil Corp. succeeded in establishing deep flank production on the extreme east side of the dome in its No. 2 Hogg, which in sand at 5,196 feet flowed initially at the rate of 700 bbls. of fluid, 25 per cent salt water.

Miramar Oil Corp. is composed of R. S. Sterling and associates. It has been particularly active in prospecting for deep sand production on and around the old domes and fields.

Sour Lake, in Hardin County, one of the oldest productive salt domes on the Gulf Coast, came into the play when a test drilled by Parr and associates off the east side of the dome and out from the shallow producing area, went into the Cockfield, the producing horizon of Con-

The first half of the year was marked by a winding up of the drilling development program at Conroe and at latest report there were only 16 rigs running, and it is likely that as fast as the present drilling tests are completed the rigs will be moved out. On June 30 there were approximately 795 producing wells in the field, representing 16,500 proven acres. The field, the largest ever developed on the Gulf Coast, not only in area but also in potential production, produced approximately 9,216,800 bbls. in the first six months, making a total yield to date in the neighborhood of 32,000,000 bbls. Conroe has been one of the most orderly produced fields known, considering its diversified ownership, and it is anticipated that on the present basis of output, the flowing life of the field will extend over a period of at least 15 years. Although it is likely the field could produce as much as 100,000 a day efficiently and without creating any physical waste, the daily allowable has been held between 45,000 and 50,000 bbls. So far fewer than 30 wells have shown trace of salt water and in the majority of instances, the situation has been corrected. Three wells, all of which are on the extreme edge, have been placed on artificial lift.

Increased Allowable and Better Crude Prices Gave New Life to Texas Panhandle Field

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

During the past six months the Panhandle district has emerged from a lethargic state that gripped it for about three years. During the forepart of this year there were 164 tests completed in the district of which only 10 were abandoned as dry holes, these having been wildcat tests, and 23 were gas wells. In the entire year of 1933 only 191 tests were completed with 15 abandoned and 24 gas wells brought in. During 1932 only 159 tests were completed or 5 less for the whole year than were completed the last six months just ended. The initial production of the wells brought in the forepart of 1934 totaled 45,073 bbls. while in the whole year of 1933 the initial production totaled only 40,953 bbls. and in 1932 it was only 48,199 bbls.

Gray and Wheeler Busiest

Gray County, the most prolific oil-producing county of the district, received over half of the completions this year, or 88, while Wheeler came second with 29. The latter county became active during the past four months, the western area, around Shamrock, and a newly developed area to the east of Shamrock, accounting for the new interest displayed in this county. The western area has been spotted with drilling wells some of the tests proving good wells while others proved small or were dry. However, drilling continues throughout the county and during the next six months development is expected to continue at the present rate, if not increasing.

Allowable Was Increased

One of the reasons for the great activity in the district was the increase in the allowable granted by the Railroad Commission in February and later. The daily allowable was increased from 42,000 to 52,000 bbls., then to 56,800 bbls. per day in May, after several of the companies, especially the Phillips Petroleum Co., asked for a larger allowable. The greater demand for oil from the district spurred all operators to activity. This was the first time in three years that such a demand has been shown for Panhandle oil.

Osborne's No. 1 Sloss & Admire, in Section 47, Block 13, 7 miles east and 11 miles southeast of the nearest production in Wheeler County, came in the middle of February making 50 bbls. per day from dolomite logged at 2,190-93 feet. Gravity of the oil was 37.5 degrees. This was the first test drilled in this area since the discovery well was drilled in 1928, and it started more drilling in this separated area that is producing above the regular granite wash pay found in other wells in the district. However, the area has not been extended to any great distance to date and appears as only a small pool containing small wells. Four producers have been drilled in on offset acreage during the past six months.

In the western part of Wheeler County, extending north of Shamrock, west on a trend south of the North Fork of the Trinity River and over into Gray County, considerable drilling has taken place with extensions being completed in various parts of this sector, all of which led to further field work. More drilling is going on along this trend and will continue until dry holes define the limits.

R. Watchorn and others' No. 1 D. E. Johnson, in Section 47, Block 24, H.&G. N. Survey, in the above mentioned trend in Wheeler County, was completed for one of the best wells of the county during the year and also resulted in a 1-mile extension for the county. It made an average flow of 795 bbls. per day from dolomite logged at 2,430-49 feet, and led to considerable more drilling in the area surrounding it. Other larger wells were completed later in the area.

Activity became so pronounced, and the area lacked pipe line outlet to such an extent that the Texas Pipe Line Co. laid 12 miles of 6-inch line from a Texas Co. lease 7 miles east of Lefors in Gray County into the active area of western Wheeler County. This was the first pipe line activity of any consequence for the district in several years.

Extension in Moore County

Another extension of interest was Shamrock Oil & Gas Co.'s No. 1 Robertson-Gulf, in the SE Section 400, Block 44, H.&T.C. Survey, Moore County. It came in making 30,000,000 feet of gas after plugging back from total depth of 3,668 feet to 3,450 feet and shooting with 10 quarts in lime from 3,395-3,400 feet. It extended the Dumas Field 2 miles, one of the largest extensions registered in the district for some time.

Wastage of Gas

There has been much controversy during the year over the waste of gas in the Panhandle. About 500,000,000 feet a day is being blown into the air. It is residue gas from the casinghead gasoline plants in the district, of which there are 40 in number. Suits have been filed in various courts to prevent operators from piping raw gas from the wells to the plants and blowing the residue into the air, but so far nothing permanent has resulted in threats or filed suits to shut down the plants and stop the wastage. However, the Federal Government may take a hand to prevent the continued loss of such a valuable commodity. The Railroad Commission has refused to do anything to prevent it, the state legislature having previously passed a bill to allow casinghead gasoline plants to operate on gas, causing the present controversy.

The Lone Star Gas Co. threatened to build several casinghead plants in the district during the year, but so far the company has not taken any steps to start such construction. The Shamrock Oil & Gas Co. enlarged its McKee casinghead plant in Moore County and its Clayton plant in Gray County, the former to 120,000,000 feet from 50,000,000 feet, during the year. The American Natural Gas Co. built a 125,000,000-foot casinghead gasoline plant in Section 100, Block 23, H.&G.N. Survey, 4 miles north of Ramsdell in Moore County, this year, and Smith Brothers started operating their 125,000,000-foot plant at McLean. The Cargray Corp. also started operating its 110,000,000-foot plant located 11 miles west of Pampa in Gray County.

One New Refinery

The only refinery construction in the district during the year was the erection of a 500-bbl. skimming plant on the Fort Worth & Denver Railroad at Plainview by the Plainview Refining Co. which is composed of J. N. Jordan, J. C. Hooper and Winfield Holbrook. This was the first plant erected in the district for some time.

Acidizing

Acidizing wells aided in increasing and bringing some old wells back on flowing production in some of the areas in the district, but a considerable number of old wells were abandoned.

TEXAS PANHANDLE
Summary of Operations, First Six Months 1934

County—	Comp.	Prod.	Dry	Gas
Carson	11	488	1	4
Childress	1	0	1	0
Collingsworth	2	0	2	0
Grey	88	34,754	2	2
Hutchinson	30	3,983	1	7
Moore	4	5	0	3
Wheeler	29	5,863	2	8
Total	165	45,093	10	23

Summary of Operations by Months

County—	Comp.	Prod.	Dry	Gas
January	23	5,005	1	1
February	43	10,607	1	8
March	15	5,744	1	3
April	24	5,883	3	2
May	27	10,327	1	5
June	33	7,527	3	4
Total	165	45,093	10	23
Same period 1933	87	15,406	9	14
Difference	78	29,687	1	9

Texas Panhandle

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
CARSON COUNTY:							
Daily average	4,989	5,517	5,773	5,721	5,568	5,462	
Month	154,659	154,476	179,113	171,630	172,608	163,860	996,351
GRAY COUNTY:							
Daily average	24,666	30,777	34,163	34,895	36,986	36,393	
Month	764,646	861,756	1,059,023	1,046,850	1,146,566	1,106,790	5,985,630
HUTCHINSON COUNTY:							
Daily average	11,101	11,767	13,386	12,526	12,858	12,109	
Month	344,131	329,476	414,966	375,780	398,598	363,270	2,226,221
MOORE COUNTY:							
Daily average	769	758	790	713	685	647	
Month	23,839	21,224	24,490	21,390	21,235	19,410	131,588
WHEELER COUNTY:							
Daily average	747	704	1,206	1,365	2,144	2,092	
Month	23,157	19,712	37,386	40,950	66,464	62,760	250,429
Daily average	42,272	49,523	55,322	55,220	58,241	57,203	52,995
Total first six months 1934	1,310,432	1,386,644	1,714,982	1,656,600	1,805,471	1,716,090	9,590,219
Total first six months 1933	1,374,416	1,227,268	1,516,280	1,395,450	1,386,204	1,299,000	8,196,618
Total first six months 1932	1,537,104	1,392,464	1,461,526	1,532,850	1,606,397	1,603,740	9,134,081
Total first six months 1931	1,754,042	1,499,736	1,593,152	1,632,320	1,858,202	1,764,840	10,092,312
Total first six months 1930	2,655,398	2,467,080	2,760,971	2,835,960	3,297,215	3,150,941	17,167,565
Total first six months 1929	1,882,873	1,582,196	1,845,218	1,824,960	2,046,579	2,023,630	11,355,536
Total first six months 1928	2,408,359	2,287,697	2,253,173	2,044,020	2,116,409	1,965,454	13,074,053

Born 72 years ago

...in the famous Drake Well... the quality of today's

KOOLMOTOR OIL

THE *PERFECT* PENNSYLVANIA MOTOR OIL

CREW LEVICK COMPANY, formed in 1862 and now a Cities Service Company subsidiary, marketed petroleum products refined from the first oil well ever drilled—the famous Drake Well overlooking the now famous Titusville "oil basin." The outstanding quality of today's KOOLMOTOR OIL is the result of these 72 years of constant effort to improve and perfect. This *perfect* Pennsylvania motor oil is refined exclusively from premium "upper-district" crude in Crew Levick Company's Titusville refinery. It is known and accepted among oil users as the oil that "cools as it lubricates"—the oil that absorbs searing heat and carries it away from hot friction surfaces and bearings.

When you're in the market for Pennsylvania oil be sure to include KOOLMOTOR on your bid list. It's born and bred in Pennsylvania . . . a branch of the oldest family tree.

Cities Service Petroleum Products are available through the following subsidiaries and refineries:

Name	Headquarters
CITIES SERVICE OIL COMPANY (Delaware)	Tulsa, Okla.
CITIES SERVICE OIL COMPANY (Michigan)	Adrian, Michigan
CITIES SERVICE OIL COMPANY (Ohio)	Cleveland, Ohio
CITIES SERVICE OIL COMPANY (Wis.)	Milwaukee, Wis.
CITIES SERVICE OIL COMPANY, LTD.	Toronto, Ont., Canada
CITIES SERVICE REFINING COMPANY	Boston, Mass.
CITIES SERVICE EXPORT OIL COMPANY	New York, N. Y.
CREW LEVICK COMPANY	Philadelphia, Pa.
EMPIRE OIL AND REFINING COMPANY	Tulsa, Okla.
A. R. NEWCOMBE OIL COMPANY	Kingston, N. Y.
LOUISIANA OIL REFINING CORP. (LORECO petroleum products)	Shreveport, La.

Refineries

CITIES SERVICE REFINING COMPANY	East Braintree, Mass.
CREW LEVICK COMPANY	Petty Island, N. J.—Titusville, Pa.
EMPIRE OIL AND REFINING COMPANY	Ponca City, Okla.—Okmulgee, Okla. Gainesville, Texas—East Chicago, Ind.
LOUISIANA OIL REFINING CORP. (LORECO petroleum products)	Bossier City, La. Gas Center, La.

CITIES SERVICE OILS

ONCE - ALWAYS

Cities Service Oils and Gasolene

Busy Six Months in Southwest Texas Results in New Pools, Extensions and Deeper Sands

Drilling activities in the Southwest Texas area during the past six months showed a decided increase over both the first and the last half of 1933. Since the first of the year the area has witnessed one of the greatest wildcat exploration programs ever carried on in the district, a great amount of which was in the Laredo area. This extensive drilling program resulted in the discovery of eight new oil fields, major extensions, or new producing sands. It has also resulted in many wildcats throughout the area showing favorable indications of new petroleum reserves and will in no doubt lead to the uncovering of several other pools within the near future. The district with its shallow sands and a great amount of the territory yet unexplored, will in all probability carry on the wildcat program for some time to come.

The Southwest Texas area registered 154 more completions to its credit during the past six months than were completed during the same period of 1933. During the past six months the district marked up 607 completions, of which, 282 were oil wells with a combined production of 97,055 bbls. daily, 297 were abandonments, and 46 gas wells. The first six months of 1933 had 498 completions with an initial production of 67,930 bbls., 300 abandonments, and 28 gassers.

Production in the area was 983,300 bbls. less than the first six months of 1933. This decline in production, however, was entirely due to curtailment in allowables. The Southwest Texas area produced a total of 9,276,727 bbls. during the past six months compared with 10,215,027 bbls. during the same period last year and to 10,101,243 bbls. during the last six months in 1933.

The area also witnessed a sharp increase in geophysical exploration. Working at the present time throughout Southwest Texas there are 31 torsion balance crews, 8 seismograph reflection crews and 1 magnetometer.

Among the most important discoveries included the Angelita area in southwestern San Patricio County; Sinton area, San Patricio County; Caesar area, Bee County; west of the old Tuleta Field in Bee County; the Jeffries Lambeth area in Starr County; a new deep discovered sand at Bruni in Webb County; a newly discovered shallow sand for the Laurel Pool in Webb County; several major extensions in the North Pettus area which includes parts of Bee, Karnes and Goliad Counties; a new deep sand for the old Driscoll Pool in Duval County; the Government Wells sand in the Eagle Hill Pool in Duval County; a new sand and major extensions in the Guerra Pool in northwestern Starr County; and gas wells making high gravity gasoline near Agua Dulce in Nueces County.

Most Important Discovery

The most important discovery during the past six months was Atkins & O'Neil and Continental Oil Co.'s No. 1 J. F. Welder in the Angelita area of San Patricio County. About 5 miles southwest of Odem and in the Trans-Salt Dome region of Southwest Texas, Atkins and O'Neil and Continental Oil Co.'s No. 1 Welder came in flowing at the rate of 7½ bbls. per hour of 33.9 gravity oil through a quarter-inch choke. Shut-in pressure on tubing was 1,550 pounds and on casing 1,700 pounds. The well was killed and tubing was set 3½ feet off bottom and it was then completed for 175 bbls. daily through one-quarter inch choke with a pressure of 500 pounds on tubing and 1,275 pounds on casing. It had sand showing oil from 5,374-75 feet, cap 5,375-76 feet, and the main pay sand from 5,376-82 feet. The 7-inch casing was set on the cap at 5,375 feet. It topped the Discorbis at 4,066 feet and encountered top of the Heterostegina at 4,221 feet actual or 4,161 feet subsea. Most of the leasing was transacted before the well was actually brought in. After the first drill stem test companies started taking all available acreage.

The Sinton Area

The second new producing area for San Patricio County during the past six months was opened in the Sinton area when Plymouth Oil Co.'s No. 1 Welder, about 3 miles north of Sinton, came in flowing at the rate of 5½ bbls. per hour of 50 gravity oil through three-eighths inch choke from oil and gas sand at 5,430-34 feet. It is about 7 miles northeast of the other discovery, Atkins and O'Neil and Continental's No. 1 Welder. Plymouth's well was formerly drilled to a total depth of 6,602 feet and operators ran a Schlumberger test which showed possibilities of production in the 5,400-foot sand. The well was then plugged back to 5,200 feet and drilled to its present depth of 5,434 feet.

About 2 miles southwest of Sinton, C. B. Bunte's No. 1 J. D. Holland was abandoned as dry with total depth of 6,007 feet. A Schlumberger test was run on the well but showed nothing of importance. About 3 miles southwest of Odom and in the A. Armstrong Survey, Bunte's No. 1 C. C. Smith was abandoned as dry with total depth of 6,030 feet. The well had several sands showing oil but none was of commercial value.

New Gas Area in Bee County

The Caesar area of Bee County proved a good gas area with a limited amount of oil when Caesar Oil Co.'s No. 1 Pullin, about 6 miles northwest of Pettus and in the F. Lewis Survey, came in making between 25,000,000 to 35,000,000 feet of gas daily with some 35.2 gravity oil and showed a pressure of 1,150 pounds on tubing and 1,300 pounds on casing. It topped the Pettus sand at 3,007 feet and had sand from 3,007-32 feet and shale and sand from 3,032-34 feet and operators set casing without making a drill stem test. Some believe the casing was set too high and are still of the opinion it had good chances for an oil producer. The well is about 2 miles southwest of the Luling Oil & Gas Co.'s No. 1 Ruhmann, wildcat gasser completed the latter part of last year.

Another new discovery for Bee County during the past six months was opened west of the old Tuleta development when Dirks Brothers' No. 1 Skinner-Harrison was completed for 90 bbls. oil daily through one-eighth inch choke with 1,500 pounds tubing pressure and 1,525 pounds casing pressure. It is estimated good for 25,000,000 feet of gas daily. The well had the Pettus sand from 3,950-62 feet and bottomed hole at 3,973 feet.

Webb County Deep Sand

A new deep sand proved productive east of the city of Bruni in Webb County when United Production Co.'s No. 1 Bruni drilled sand from 3,410-17 feet and was completed for 34 bbls. oil daily. This is the deepest sand yet discovered in the area. It had cap from 2,284-86 feet, gas sand from 2,266-97 feet, estimated good for 15,000,000 feet daily, sand from 2,547-55 feet which showed eight joints of oil and two joints of salt water, sand 2,795-2,820 feet with 3,000,000 feet of gas, and gas sand from 2,940-58 feet.

Also in Webb County a new sand was discovered in the Laurel Field when South Texas Oil Co.'s No. 12 Laurel in Block 4, Survey 270, came in for estimated 20,000,000 feet of dry gas with 600 pounds rock pressure. It had sand from 1,770-77 feet. The other sand in the field is from 2,100-2,200 feet.

Southern Karnes County

Magnolia Petroleum Co.'s No. 1 Scarborough, in southern Karnes County, was completed during the early part of the year for a gas well and spraying some oil. It showed 600 pounds tubing pressure and 800 pounds casing pressure. The well topped the Pettus sand at 3,621 feet and bottomed hole at 3,639 feet. Magnolia's No. 2 Guy Porter, 300 feet north of its No. 1 Scarborough, was completed for 152 bbls. in 12 hours through thirty-one-sixty-fourths inch choke with a pressure of 100 pounds on tubing and 320 pounds on casing. It had the Pettus sand from 3,638-48 feet, which is the total depth.

North Pettus Extended

The North Pettus Field was extended about 2,500 feet to the east when H. H. Weinert's No. 1 Grady Smith in northwestern Goliad County came in flowing 232 bbls. oil daily through one-quarter

Southwest Texas

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos (bbls.)
AQUA DULCE:							
Daily average	13	2	2	13	11	105	
Month	403	66	60	393	344	3,147	4,413
BEXAR COUNTY:							
Daily average	604	617	623	652	706	715	
Month	18,724	17,276	19,315	19,562	21,888	21,448	118,213
BRANYON:							
Daily average	30	31	30	34	30	29	
Month	937	860	928	1,017	928	871	5,541
BRUNER:							
Daily average	4,612	4,619	4,566	4,604	4,603	4,625	
Month	142,966	129,336	141,542	138,118	142,681	138,752	833,395
BUCHANAN:							
Daily average	54	55	56	56	53	45	
Month	1,679	1,531	1,740	1,682	1,646	1,347	9,625
BYERSVILLE PLUG:							
Daily average	55	54	97	91	99	102	
Month	1,716	1,512	3,001	2,735	3,066	3,056	15,086
ANGELITA:							
Daily average	.....	.....	.....	.....	164	140	
Month	.....	.....	.....	.....	5,081	4,205	9,286
CALLIHAM:							
Daily average	74	66	74	.....	.....	.....	
Month	2,303	1,856	2,297	.....	.....	.....	6,456
CEDAR CREEK:							
Daily average	308	404	438	451	481	484	
Month	9,539	11,322	13,575	13,526	14,910	14,524	77,397
CHAPMAN:							
Daily average	596	537	540	584	544	625	
Month	18,462	15,036	16,742	17,517	16,865	18,748	103,370
DALE:							
Daily average	297	275	269	278	273	282	
Month	9,211	7,693	8,341	8,338	8,631	8,462	50,656
DARST CREEK:							
Daily average	9,284	9,404	9,166	9,345	9,202	9,314	
Month	287,804	263,310	284,145	280,352	285,259	279,422	1,680,292
DUNLAP:							
Daily average	91	83	87	81	81	78	
Month	2,826	2,331	2,690	2,483	2,516	2,337	15,183
EAGLE HILL:							
Daily average	482	486	413	504	818	845	
Month	14,943	13,608	12,955	15,115	25,356	25,352	107,328
GOLIAD:							
Daily average	12	16	17	3	.....	.....	
Month	379	457	525	90	.....	.....	1,451
GOVERNMENT WELLS:							
Daily average	11,210	10,171	11,405	14,951	15,706	16,124	
Month	347,497	284,801	353,559	448,527	486,884	483,718	2,404,986
HILBIG:							
Daily average	775	775	774	775	771	777	
Month	24,021	21,692	24,027	23,253	23,901	23,315	140,109
JACOBS:							
Daily average	283	283	287	558	621	631	
Month	8,740	7,924	8,895	16,742	19,249	18,927	80,477

(Continued on Next Page)

A roller bearing hanger for **HEAVY** *pumping service*

The Moore Type 10 Beam Hanger meets the demands of the hardest kind of service. It has twenty square inches of projected bearing surface. Roller bearings (1) are used and lubrication is effected through Alemite fittings (2). There is a pin (3) through the top cross bar for alignment and load distribution. Eyes (4) are provided for easy handling. The clamp has a positive and easily removed latch. Reins are 1½" or 2" in diameter. The hanger is shown on a Moore Type C end walking beam but can be used with any beam by using a small adapter casting.

LEE C. MOORE & CO. INC., TULSA · PITTSBURGH
Dallas · Houston · Henderson · Kilgore · Longview · Pampa, Texas
Wichita, Kansas
Stocks in all active fields

AN EXAMPLE of the service capacity of this hanger is found on a Mid-Continent well where excessive hanger trouble had been experienced. A Moore Type 10 Hanger was installed and after a year of trouble-free operation an examination showed practically no wear on the roller bearings.

Moore PUMPING *Equipment*

STEEL DERRICKS SINCE 1908

DERRICKS · SUBSTRUCTURES · HANGERS · WALKING BEAMS
SAMSON POSTS · JACK POSTS · BULL AND CALF WHEEL POSTS
WHEELS · PITMANS · IMPROVED BEARINGS · CROWN BLOCKS
PORTABLE PUMPING UNITS · CLEAN-OUT MACHINES · WINCHES

inch choke with a pressure of 225 pounds on tubing and 650 pounds on casing. It had the Pettus sand from 3,658-62 feet, which is the total depth. It is 330 feet from northwest line and 330 feet from southwest line of 142-acre tract in the B.&B. Survey No. 25. Magnolia Petroleum Co.'s No. 3 Porter, an offset to Weinert's No. 1 Smith producer, was completed for 285 bbls. daily through twenty-five-sixty-fourths inch choke and showed 600 pounds pressure on casing and 200 pounds working pressure on tubing. The well had the Pettus sand from 3,666-74 feet.

Houston Oil Co.'s No. 1 Neihaus, west of Magnolia's No. 1 Scarborough, was completed for 20,000,000 feet of gas daily with 5 bbls. of distillate. It had sand from 3,644-49 feet. Magnolia's No. 2 Scarborough, an east offset to Houston's No. 1-B Neihaus, drilled sand from 3,634-41 feet and was completed for 268 bbls. daily but went dead. At last report operators were endeavoring to bring the well back on production. Sun Oil Co.'s No. 1 Scarborough, 660 feet southwest of Weinert's No. 1 Smith producer, was completed for 250 bbls. daily with total depth of 3,654 feet. It topped the Pettus sand at 3,647 feet.

Houston Oil Co.'s No. 1-B Neihaus, south of the North Pettus Field, topped the Pettus sand at 3,644 feet and came in flowing at the rate of 25 bbls. oil per hour through one-half inch choke with 250 pounds pressure on tubing and 450 pounds on casing. The first day the well made 500 bbls. About 4 miles northeast of the North Pettus Field in Karnes County, George Ray's No. 1 Radford, in the Nichols Survey, was abandoned as dry with total depth of 3,903 feet.

Deep Sand in Driscoll Pool

A new deep sand proved productive in the old Driscoll Pool in Duval County when Continental Oil Co.'s No. 1 R. Driscoll was completed for 12 bbls. oil per hour through one-half inch choke with 30 per cent water and showed a tubing pressure of 650 pounds and casing pressure of 800 pounds. The oil tested 33 gravity. The well was carried to a total depth of 3,461 feet and then plugged back to 3,448 feet. It was also estimated good for 12,000,000 feet of gas.

In the Eagle Hill Pool in Duval County R. D. Kelley's No. 5 Foster on the south side of the pool, proved productive in the Government Wells sand and came in at the rate of 200 bbls. pipe line oil daily at 2,144 feet. It topped the sand with a show of oil at 2,120 feet and at 2,141 feet tested 3 thribbles of oil with no water in three minutes. The well was then carried to 2,151 feet and tested salt water and was later plugged back and completed. It had water in the Cole sand. The pool is producing from the Cole sand around 1,500 feet.

The Eagle Hill Oil Corp. sold one-half interest in its holdings which amounted to 700 acres with three producing wells to the S. R. C. Oil Co. The acreage is on the Duval County Ranch and the Foster Ranch. The S. R. C. took over operations and is under contract to drill 12 wells on the property.

118,000-Bbl. Storage Tank

In the Guerra Pool of northwestern Starr County the Sun Oil Co. has completed its 118,000-bbl. storage tank, the largest in Southwest Texas, and is preparing to start on a 30-day test of its 10 producers in the Guerra Pool. The 30-day open test has been made possible through the permission obtained from the Federal oil administrator, Secretary Harold Ickes. The test is to be made to determine the potential possibilities of the area and to determine what expense would be advisable in further development of the field. All wells have been shut in since completion.

The area has carried on an extensive drilling campaign during the past few months with several major extensions drilled and one new producing horizon discovered. Sun Oil Co.'s No. 6-B M. Guerra & Son opened a new producing horizon when it came in for 100 bbls. daily from sand at 2,047-55 feet. It is about a mile east of wells producing from the 2,200-foot horizon.

Jeffries-Lambeth Discovery

A new oil producing area was discovered in the Jeffries-Lambeth gas area when Jeffries-Lambeth's No. 2 Starr County Land & Cattle Co. drilled sand at 2,502-15 feet and on a drill stem test showed 400 feet of oil in 12 minutes. The well was completed with total depth of 2,518 feet for 125 bbls. daily. The oil well is 800 feet southeast of the same company's No. 1 gasser which was completed last year and has since started making some oil. Completing the second well for an oil producer added renewed interest in leasing activities along the trend by both major companies and independents. The well is about 5 miles east of proven production in the Rio Grande City Pool and on the trend running northwest and southeast through the county.

In the north end of the Lucas gas field in Live Oak County, Marine Oil Co.'s No. 1 J. B. Dunning was completed for 3,700,000 feet of gas with 48 bbls. of 62 gravity gasoline daily and 8 bbls. of brackish water. Total depth is 5,269 feet. It topped the Oakville at 1,240 feet, had top of Catahoula at 1,484 feet and drilled top of Fayette at 3,862 feet.

In southern Jim Wells County and about 1½ miles south of Magnolia Petroleum Co.'s No. 2 Seeligson, Trinity Drillers' No. 1 Seeligson came in for a big volume of gas and spraying some oil in sand from 2,366-84 feet. The well was formerly carried to 4,032 feet where it showed a high pressure, but later water broke in. It was then plugged back to 2,384 feet and completed. It showed a tubing pressure of 700 pounds and casing pressure of 1,000 pounds. Magnolia Petroleum Co.'s No. 2 Seeligson came in last year producing at 3,250 feet and at that time there was no production within about 25 miles of the well. Rodney DeLange's No. 1 Driscoll, about 4 miles north of Trinity Drillers' test, was abandoned as dry at 3,508 feet. It had none of the numerous showings encountered in the Seeligson test.

About 3 miles southeast of the Government Wells Field in Duval County, Bridwell Oil Co.'s No. 1 Southerland had sand with a good show of gas and show of oil from 2,706-14 feet and was completed for 20,000,000 feet of gas daily with 975 pounds rock pressure. It topped the sand at 2,689 feet actual or minus 2,012 feet.

Geophysical Work

The following is a chart showing companies working geophysical crews in the Southwest Texas district:

Company—	Torsion balance	Seismograph reflection	Magnetometer
Atlantic O. P. Co.	4	..	..
Continental Oil Co.	..	2	..
Darby Pet. Co.	..	1	..
Heep Oil Co.	4	..	..
Humble O. & R. Co.	8	..	..
Magnolia Pet. Co.	6	1	..
Shell Pet. Corp.	7	..	..
Sun Oil Co.	2	..	1
Texas Seaboard Co.	..	1	..
Union Sulphur Co.	..	2	..
United Gas Co.	..	1	..
Total	31	8	1

New Gasoline Plant

In Nueces County, the Nueces Refining Co. completed a $140,000 natural gasoline plant, southwest of Agua Dulce, and on the Ollie Purl tract. The plant has a recovery of 18,000 gallons of natural gasoline daily and will use approximately 40,000,000 feet of gas daily.

In western Nueces County, Garland Clymore's No. 1 Ollie Purl, just east of the 2,000-foot Agua Dulce gas field, came in estimated good for 100 bbls. of gasoline daily. It had sand from 4,844-58 feet. It is a west offset to Houston Oil Co.'s No. 1 Ollie Purl, a similar producer in sand topped at 4,823 feet.

SOUTHWEST TEXAS
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas
Aransas	1	0	1	0
Atascosa	2	0	2	0
Bandera	1	0	1	0
Bastrop	33	2,995	19	0
Bee	13	1,123	6	1
Bell	2	0	2	0
Bexar	20	44	13	1
Blanco	2	0	2	0
Brooks	2	0	2	0
Burleson	2	0	2	0
Caldwell	13	0	13	0
Colorado	1	0	1	0
Comal	1	0	1	0
Dewitt	4	0	4	0
Duval	268	86,905	43	11
Edwards	1	0	1	0
Fayette	1	0	1	0
Frio	2	0	2	1
Gonzales	2	0	2	0
Guadalupe	9	0	9	0
Hays	1	0	1	0
Hidalgo	6	0	6	0
Jim Hogg	6	0	6	0
Jim Wells	4	230	2	0
Karnes	7	0	6	1
Kendall	2	0	2	0
Kerr	3	0	3	0
LaSalle	2	0	2	0
Live Oak	15	50	13	1
Maverick	3	0	3	0
McMullen	32	276	25	1
Medina	6	4	5	0
Milam	5	0	5	0
Nueces	11	350	5	0
San Patricio	5	324	3	0
Starr	30	1,925	15	10
Travis	6	0	6	0
Uvalde	1	0	1	0
Webb	27	654	15	3
Williamson	19	188	10	0
Wilson	5	0	5	0
Zapata	30	1,481	12	7
Ttl. first 6 mo. 1934	607	97,055	279	44
Ttl. first 6 mo. 1933	498	67,930	300	33
Difference	109	29,125	21	11

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	113	15,130	58	6
February	89	11,111	39	6
March	94	20,846	37	6
April	99	14,251	44	5
May	115	24,232	53	9
June	98	11,485	48	12
Total	607	97,055	279	44

Southwest Texas (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
JOLIET:							
Daily average	26	28	28	28	22	21	
Month	809	779	864	843	686	628	4,609
KINGSVILLE:							
Daily average	80	78	74	71	70	75	
Month	2,473	2,179	2,295	2,132	2,166	2,251	13,494
LARRAMORE:							
Daily average	59	56	49	10	33	30	
Month	1,828	1,567	1,522	298	1,027	909	7,151
LULING:							
Daily average	5,982	6,196	6,296	6,132	6,080	6,105	
Month	185,472	173,481	195,170	183,955	188,476	183,154	1,109,708
LYTTON SPRINGS:							
Daily average	463	461	459	430	452	482	
Month	14,352	12,909	14,227	12,897	14,011	14,466	82,853
McCRORY:							
Daily average	20	20	20	4	.....	.....	
Month	614	552	625	118	.....	.....	1,909
MANFORD:							
Daily average	52	53	53	45	45	44	
Month	1,617	1,486	1,641	1,355	1,398	1,319	8,816
MEDINA:							
Daily average	21	17	21	23	12	14	
Month	663	476	658	681	375	418	3,221
CHICON LAKE:							
Daily average	28	24	23	18	15	15	
Month	869	683	710	542	460	463	3,727
MINERVA:							
Daily average	334	324	333	334	331	336	
Month	10,344	9,357	10,360	10,017	10,272	10,083	60,433
MIRANDO DISTRICT:							
Daily average	6,936	7,040	6,856	6,936	6,957	6,976	
Month	215,016	197,134	212,539	208,078	215,665	209,277	1,257,709
OGDEN (BATMAN):							
Daily average	380	562	618	618	625	634	
Month	11,782	15,740	19,152	18,542	19,377	19,017	103,611
PETTUS DISTRICT:							
Daily average	2,723	2,226	2,026	2,329	2,439	2,457	
Month	84,410	62,319	62,812	69,873	75,611	73,713	428,738
SAL MAR:							
Daily average	6	6	6	.....	.....	.....	
Month	194	170	184	.....	.....	.....	548
SAXET:							
Daily average	1,887	1,938	1,845	1,991	1,756	1,876	
Month	58,492	54,264	57,194	59,727	54,434	56,284	340,395
SOMERSET:							
Daily average	805	816	858	849	759	785	
Month	24,943	22,839	26,595	25,466	23,531	23,546	146,920
THRALL:							
Daily average	50	53	53	53	52	54	
Month	1,562	1,483	1,641	1,594	1,630	1,611	9,521
TULETA:							
Daily average	73	80	40	44	37	41	
Month	2,264	844	1,237	1,318	1,150	1,227	8,040
WHITE POINT:							
Daily average	27	30	27	27	29	28	
Month	837	832	840	811	897	843	5,060
YOAST:							
Daily average	106	103	95	99	86	85	
Month	3,279	2,885	2,948	2,713	2,665	2,547	17,037
Daily average	48,838	47,950	48,631	53,010	53,965	54,979	51,253
Total first six months 1934	1,512,972	1,342,591	1,507,551	1,590,310	1,672,925	1,649,378	9,276,727
Total first six months 1933	1,686,944	1,529,203	1,760,187	1,705,575	1,791,634	1,741,484	10,215,027
Total first six months 1932	1,821,552	1,836,872	1,883,784	1,730,681	1,971,657	1,849,784	11,094,330
Total first six months 1931	2,698,916	2,262,696	2,220,534	2,211,571	2,059,458	2,000,546	12,562,721
Total first six months 1930	1,981,174	1,813,895	1,977,584	1,893,320	2,188,405	2,421,241	12,275,729
Total first six months 1929	1,468,427	1,527,677	2,021,412	2,199,207	2,413,599	2,424,277	12,039,599

Important Discoveries in Southeast New Mexico Featured Rocky Mountain Oil Developments

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

The first important oil discovery in New Mexico during the first half of 1934 was in the Cooper area in Lea County between the Jal Pool on the south and the Eunice Pool on the north. This discovery was made in the General Crude Oil Co.'s No. 1 Meyers, NE cor. SE Sec. 22-24-36, in an old gas well drilled deeper. This well was drilled to 3,438 feet in July 1929, by Cranfill & Reynolds and completed as a gasser with an estimated capacity of 70,000,000 feet a day. The location is 4 miles north of the most northerly well in the Jal Pool and 5 miles south of the Continental Oil Co.'s No. 1 Lynn, NW cor. SE Sec. 26-23-36, which was completed in 1929 as a 50,000,000-foot gas well at 3,650 feet after plugging back from 3,930 feet. Two to three miles northwest of the No. 1 Lynn are several small oil wells and another gasser. The General Crude Oil Co.'s No. 1 Meyers, with the exception of the same company's No. 1 Cushing, SW SE NW Sec. 23-24-36, is the only test drilled in the area between the Jal Pool and the Continental's No. 1 Lynn, a distance of 9 miles. The probability is that the entire distance may be found productive.

The General Crude Oil Co., successor to Cranfill & Reynolds, began deepening No. 1 Meyer in April, 1934. At 3,461-74 feet, on a drill stem test, the gas was estimated at 50,000,000 feet a day and the oil at 2,000 to 5,000 bbls. It was then drilled to 3,512 feet and again tested at 3,498-3,508 feet and estimated at 6,000,000 feet of gas and the same quantity of oil. The 7-inch was then cemented at 3,498 feet with 100 sacks. The pay was found at 3,498-3,512 feet. It gauged 198 bbls. the first hour with a 3-inch choke on the tubing and 2-inch on the casing. It made 225 bbls. the next hour through the tubing with 100 pounds back pressure and 3,000,000 feet of gas. It was then pinched in to its allowable outlet. The surface elevation is 3,339 feet. The top of the salt was at 1,312 feet and the base at 2,910 feet. The top of the brown lime was at 2,960 feet and the gas horizons at 3,305-18, 3,368-80, and 3,420-38 feet. Same company's No. 1 Cushing, one-third of a mile to the east, was deepened from 3,205 feet to 3,505 feet and completed for 100 bbls. an hour after being treated with acid. A drilling program was inaugurated around these wells and on July 1 six operations were under way exclusive of a test 2 miles to the south which may connect up the Cooper and Jal Pools. The Cooper area is served with two pipe lines, the Humble Pipe Line Co. and the Texas Pipe Line Co., which run from the Hobbs Field into west Texas. The oil is 35° gravity against 37.5° in the Jal Pool.

North Lea County

Another discovery in Lea County was made by the Texas Co. in its No. 1 Lea, SW cor. NW Sec. 14-20-34, in what has been designated as the North Lea Pool. The well has not yet been completed. It is located 3 miles to the north of the most northerly producer in the Lea Pool and appears to be a separate pool. First oil was encountered in gray sand at 3,460 feet and it flowed 20 bbls. in one hour while running pipe. This horizon is 150 feet higher than the pay in the Lea Pool and the oil is 37.6° gravity against 27.5° for the Lea wells. The 6¼-inch was set at 3,535 feet and pipe line connection made. The bottom of the brown sand and the pay was at 3,579 feet, at which depth it swabbed and flowed 120 bbls. daily. At last report it was drilling at 3,635 feet in lime and swabbing and flowing 80 bbls. a day. The elevation is 3,665 feet. The well is located 3 miles east of Henderson, Dexter & Blair's No. 1 Lockhart, SE cor. Sec. 18-20-34, a small producer, and nearly 3 miles northeast of the Continental Oil Co.'s No. 1 Flint, SE cor. Sec. 28-20-34, a dry hole.

Hobbs Pool

The proven area of the Hobbs Pool was extended half a mile to the west in the northwestern part of the field in April in Noble Brothers' No. 1 Shell-State, SE cor. NW Sec. 24-18-37, which gauged 12,643 bbls. and 12,000,000 feet of gas first 24 hours at a total depth of 4,188 feet in lime. The elevation is 3,669 feet. The top of the white lime was at 4,102 feet and the pay at 4,156-88 feet. The location was in doubtful territory and the Shell Petroleum Corp. turned the acreage over to Noble Brothers, of the Noble Drilling Co., under a deal to put down the test. A south offset to this well gauged 9,736 bbls. at 4,171 feet. These two completions show that the limits of the pool on the northwestern side have not yet been found by the drill. The edge on the southeast apparently has been found in the Skelly Oil Co.'s No. 2 Turner, C NE NW Sec. 34-18-38, in the Hobbs Townsite. At 4,203 feet it was attempting to swab in and was estimated at 200 to 300 bbls. a day. It was given a treatment of 2,000 gallons of acid and responded with an initial production of 2,462 bbls. and 4,966,000 feet of gas.

The principal development in the Hobbs Pool during the first six months of 1934 was the large increase in the field's potential as a result of the treating of wells with acid. The potential of the field on January 1, 1934, from 183 units of 40 acres each, was 1,278,894 bbls. daily and on June 16 from 186 units the potential was 1,860,120 bbls. This was an increase of 591,226 bbls. daily, of which 19,320 bbls. was from wells completed and 571,906 for wells regauged after treatment. One unit during this period was given a special allowance on account of water. Four new units were brought into production in as many wells. On the first of the year 18 units were classed as water units and these were given a potential of 49,980 bbls. daily. On June 16 there were 25, an increase of 7, units classed as water units to which were given a potential of 90,293 bbls. The water units are mostly on the extreme southwestern edge and on the north. This small increase in water intrusion indicates the success of the methods being used by the engineers in controlling the water under proration. The allowable outlet of the field varied only slightly, being 33,468 bbls. daily on January 1 and 36,835 bbls. daily for the last half of June.

NEW MEXICO

Summary of Wells Completed First Six Months of 1934

County—	Comp.	Prod.	Dry	Gas
Chaves	1	0	1	0
Eddy	15	716	4	7
Lea	20	42,670	0	1
McKinley	1	5	0	0
San Juan	6	78	1	1
Torrance	1	0	1	0
Total	44	43,469	7	9
Same period 1933	38	121,465	8	0
Difference	6	77,996	1	9

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	7	5,169	2	2
February	5	10	1	3
March	6	3,180	0	2
April	6	13,328	1	1
May	10	14,134	0	1
June	10	7,648	3	0
Total	44	43,469	7	9

Jal Pool

Ten wells were completed in the Jal Pool during the six months. While these were widely scattered, they were mostly in territory expected to be productive and the only feature about them was their size. The area is considerably spotted and there is lacking the uniformity found in other areas. The best well completed, which was a record for the pool and shows what may be encountered in the way of large producers, was the Southern Petroleum Exploration Co.'s No. 1 Ascarate, C NE NW Sec. 24-25-36, which gauged 100,000,000 feet of gas at 3,212-86 feet and was completed as an oil well at 3,312 feet, total depth, making 993 bbls. in 5 hours and 20 minutes, or at the rate of 4,464 bbls. daily. Two offsets to this well, however, were average producers and not up to No. 1 Ascarate. As showing the wide variation, the Barnsdall Oil Corp.'s No. 1 Forrest, NE NW SW Sec. 24-25-36, made 60 bbls. initial.

Two tests were drilled on the Black River structure in southern Eddy County by the firm of Stovall & Marshall. Their No. 1 Mock, C SE SE Sec. 29-24s-27e, made a small discovery last December at 2,338 feet, but was temporarily abandoned. In January work was resumed and sand at 2,310-30 feet was shot with 60 quarts. Oil rose 225 feet in three hours. It was deepened to 2,377 feet where it had a show of salt water. It was plugged back to 2,369 feet and completed and made 10 bbls. of oil and 6 bbls. of water in two days on the pump. The firm then drilled its No. 1 McIlvain in C SE NE Sec. 5-25-27, topped the Delaware at 2,214 feet and drilled to 2,367 feet where it had a hole full of water from sand at 2,357-67 feet. It was plugged and abandoned.

All the pools in southeastern New Mexico are under proration and during the first half of the year C. G. Staley, umpire for the Hobbs Pool, filled the same office for the Jal, Eunice, Lea and Cooper areas.

COLORADO

The most important wildcat completed in Colorado was the Ramsey Petroleum Corp.'s No. 1 Scriven, C NW Sec. 22-7n-59, Buckingham district, Weld County, in the northeastern part of the state. This well was drilled in 1933 through the Muddy sand at 6,794-6,818 feet and that horizon was dry. The operation then shut down until June, 1934, when it was

New Mexico

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
HOGBACK:							
Daily average	226	219	213	210	217	220	
Month	7,019	6,129	6,611	6,313	6,731	6,611	39,414
RATTLESNAKE:							
Daily average	783	770	721	716	718	721	
Month	24,269	21,560	22,360	21,482	22,256	21,626	133,553
TABLE MESA:							
Daily average	91	90	89	90	97	101	
Month	2,810	2,526	2,749	2,694	3,010	3,030	16,819
ARTESIA:							
Daily average	603	607	609	603	626	641	
Month	18,699	17,003	18,866	18,087	19,398	19,227	111,280
HOBBS:							
Daily average	33,303	32,275	32,179	36,304	36,016	36,307	
Month	1,032,337	903,692	997,561	1,089,120	1,116,491	1,089,224	6,238,475
JAL:							
Daily average	2,018	2,020	2,199	2,548	2,556	2,626	
Month	62,551	56,562	68,172	76,432	79,239	78,777	421,733
EUNICE:							
Daily average	1,083	1,113	1,912	2,036	1,994	1,948	
Month	33,573	31,161	59,266	61,089	61,814	58,446	305,349
MALJAMAR-JACKSON:							
Daily average	1,236	1,229	1,266	1,287	1,302	1,650	
Month	38,311	34,414	39,253	38,600	40,362	49,508	240,448
LEA CITY:							
Daily average	1,868	1,765	1,797	1,702	1,714	1,704	
Month	57,914	49,412	55,707	51,052	53,134	51,112	318,331
T. AND P.:							
Daily average	127	100	107	79	80	.....	
Month	3,926	2,809	3,312	2,376	2,469	.....	14,892
COOPER:							
Daily average	142	141	127	115	100	83	
Month	4,408	3,940	3,937	3,450	3,093	2,483	21,311
Daily average	41,480	40,329	41,219	45,690	45,421	46,001	43,379
Total first six months 1934	1,235,867	1,129,208	1,277,794	1,370,695	1,407,997	1,384,044	7,851,605
Total first six months 1933	995,813	1,020,824	1,148,674	1,065,030	1,092,719	1,063,290	6,386,350
Total first six months 1932	1,162,766	1,056,702	1,126,354	1,096,320	1,109,278	1,069,020	6,610,436
Total first six months 1931	1,233,304	1,123,220	2,252,989	1,199,730	1,285,359	1,328,070	7,522,672
Total first six months 1930	315,549	238,532	337,528	374,380	558,589	686,040	2,511,118
Total first six months 1929	87,668	83,384	89,621	98,640	96,761	88,782	544,836
Total first six months 1928	74,865	59,981	69,347	68,160	73,470	58,860	404,683
Total first six months 1927	136,679	138,466	148,738	142,140	112,530	102,120	780,667

deepened 3 feet into the Dakota at 6,891-94 feet and water rose 3,000 feet in the hole. It was plugged and abandoned.

COLORADO

Summary of Wells Completed First Six Months of 1934

County—	Comp.	Prod.	Dry	Gas
Boulder	1	0	1	0
La Plata	1	0	1	0
Larimer	1	0	1	0
Moffat	6	9,660	1	2
Park	1	0	1	0
Total	10	9,660	5	2
Same period 1933	16	0	14	2
Difference	6	9,660	9	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	3	4,660	0	1
March	1	0	1	0
April	1	0	1	0
May	3	5,000	1	0
June	2	0	1	1
Total	10	9,660	5	2

MONTANA

A discovery made by the Texas Co. 7 miles southeast of the town of Cut Bank, in Glacier County, in January, which at first looked like the opening of a new pool, was proven by subsequent developments to be an extension 8 miles to the south and east of the nearest producer in the Cut Bank Field. This well, the Texas Co.'s No. 1 State, is located in the C NE Sec. 16-32n-5w. It began spudding October 12, 1933, and was completed the following January at a total depth of 3,008 feet. It found the Cut Bank sand at 2,973-85 and 2,990-97 feet and the top of the Ellis at 2,997 feet. It swabbed 258 bbls. on January 20 and then was put on the pump, making 35 bbls. in 2½ hours. The second week in February it was pumping an average of 80 bbls. daily.

The depth at which the sand was found, approximately the same as in the developed portion of the Cut Bank Field, indicated that where sand conditions are favorable that most of the intervening territory on approximately the same sand elevations will be productive. This was confirmed in May when the Montana Power Co.'s No. 1 Neill, C NE Sec. 20-33-5w, was completed as a producer. No. 1 Neill is 5 miles to the north and a little west of the Texas Co.'s No. 1 State and 3 miles south of the nearest producer in the Cut Bank Field proper. No. 1 Neill was drilled to 3,010 feet and oil rose 2,000 feet in the hole from sand at 2,986-3,008 feet. It swabbed 115 bbls. the first day and settled to 80 bbls. on the pump.

Late in 1933, the Santa Rita Oil & Gas Co. completed its No. 1 Jacobson, C NW NW Sec. 23-37-5w, 3 miles south of the Canadian boundary. The distance from this well to the Texas' No. 1 State is approximately 30 miles and indicates the vastness in area of the Cut Bank Field. So far the field has been proven for a width of 2 to 3 miles, but its limits have not been determined in any direction except possibly on the extreme north, an offset on the north to No. 1 Jacobsen being abandoned as a dry hole.

MONTANA

Summary of Wells Completed First Six Months of 1934

County—	Comp.	Prod.	Dry	Gas
Carbon	2	0	2	0
Gallatin	1	0	1	0
Glacier	42	3,886	1	1
Golden Valley	1	0	1	0
Hill	1	0	1	0
Judith Basin	1	0	1	0
Liberty	3	10	1	1
Petroleum	1	0	1	0
Teton	1	0	1	0
Toole	7	16	3	2
Total	60	3,912	13	4
Same period 1933	18	1,256	3	2
Difference	42	2,656	10	2

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	5	427	2	0
February	5	521	0	0
March	9	833	1	0
April	14	630	6	0
May	9	644	2	0
June	18	858	2	4
Total	60	3,912	13	4

There were 42 wells completed in the field the first half of 1934 with an average initial swabbing and pumping production of 92 bbls. to the well. In June of this year a check of wells indicated an average of 33 bbls. daily per well for all producers in the field. The average cost of wells is $20,000 and lifting charges are from 25 cents to 35 cents a barrel. Several flowing wells have been brought in, but these are the exceptions rather than the rule.

A small discovery was made in Toole County in the Devon district 12 miles north and 15 miles east of Shelby, in C. Leonard Smith and others' No. 1 Mowat, SW cor. SE Sec. 7-33n-2e. It began spudding September 23, 1933, and was drilled to 1,680 feet. It drilled through the Sunburst sand into the yellow shale below. The top of the Sunburst was at 1,495 feet. The hole was in bad condition and efforts were made to plug back. It was shot with 20 quarts at 1,173-80 feet. After cleaning out it was estimated at 50 bbls. a day of 42° gravity crude, with 2,000,000 feet of gas. Subsequent pumping test showed 8 to 10 bbls. a day. It is not certain as to which of the horizons between 1,100 and 1,500 feet is producing the oil and gas. Several wells are now drilling in the area, but the probable size of the pool has not been determined.

WYOMING

Two discoveries were made in Wyoming during the first half of 1934, one of which opens a small pool at a shallow depth and the other, although it appears to be a commercial well, is not yet completed and its possibilities remain to be determined.

The shallow discovery was made in the Cumberland district in Lincoln County in the western part of the state in H. M. Eller and others' No. 1 Government, SE cor. SW Sec. 32-19n-116, 18 miles southwest of Kemmerer. The well began spudding October 12, 1933, and in June, 1934, was completed as a producer at 360 feet. It pumped 20 bbls. initial at that depth, the oil being very high grade and testing 50° gravity A.P.I. scale.

WYOMING

Summary of Wells Completed First Six Months of 1934

County—	Comp.	Prod.	Dry	Gas
Big Horn	1	0	1	0
Carbon	3	0	1	2
Converse	2	0	1	1
Hot Springs	2	100	0	1
Lincoln	1	25	0	0
Natrona	1	125	0	0
Niobrara	1	10	0	0
Park	2	1,100	0	0
Sheridan	1	0	1	0
Sweetwater	1	0	0	1
Washakie	2	0	2	0
Weston	10	195	2	0
Total	27	1,555	8	5
Same period 1933	16	531	8	2
Difference	11	1,024	0	3

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	4	85	2	0
February	0	0	0	0
March	3	140	0	1
April	3	0	1	2
May	10	1,260	2	1
June	7	70	3	1
Total	27	1,555	8	5

The other discovery, which has the possibility of opening an important pool, is Earl W. Reeder, Inc.'s. No. 1 Union Pacific, C SW SW Sec. 19-20-83, on the Overland or Pass Creek structure, in Carbon County, 18 miles southeast of the Sinclair refinery at Parco. The structure has a northwest-southeast trend and is approximately 8 miles long and 2½ miles wide. There is approximately 1,320 feet of Tertiary at the surface and on the basis of the upper geology the first Wall Creek was expected at 2,300 feet and the Dakota at 3,400 feet. However, actual drilling disclosed an entirely unexpected condition and drilling for some time has been mostly in the dark with much difficulty in identifying the formations on account of their broken condition.

The well began spudding April 4, 1933. It had oil and gas shows at 1,700 feet in the base of the General Petroleum series. This was followed by three shows between 3,000 and 3,300 feet and another at 3,465 feet, 3 feet below what was identified as the top of the Mowry shale. There were other shows at 3,735, 3,745 and 3,762 feet. The last slopped over the top when tools were pulled and settled to 2,500 feet. It was swabbed down and the oil rose 2,500 feet overnight. At around this depth it was estimated that the well was good for 200 to 600 bbls. a day of 40 gravity oil. The reappearance of what looked like Mowry shale below these horizons caused a revision of the log which put the big oil in the Frontier at 3,735-68 feet, with an increase at 4,020-50 feet. The oil was cased off and more oil found at deeper horizons, especially at 4,420-4,450 feet, oil rising 2,700 feet. Again at 4,460 feet there was more oil which went over the top while swabbing. Due to caving conditions, fishing jobs and other difficulties, the hole was reduced to the 4¾-inch string which is being underreamed and carried and at last report was on bottom at 4,836 feet and the objective Dakota apparently has

Colorado

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CRAIG:							
Daily average	537	471	457	417	542	511	
Month	16,641	13,197	14,152	12,517	16,789	15,339	88,635
FORT COLLINS:							
Daily average	154	105	105	85	89	90	
Month	4,764	2,928	3,263	2,561	2,770	2,694	18,980
FLORENCE:							
Daily average	247	251	257	224	240	249	
Month	7,669	7,041	7,956	6,711	7,429	7,462	44,268
ILES:							
Daily average	1,062	1,152	889	916	1,319	1,136	
Month	32,913	32,269	27,563	27,477	40,894	34,080	195,196
ORCHARD:							
Daily average	121	121	113	110	101	102	
Month	3,765	3,394	3,511	3,314	3,135	3,069	20,188
RANGELY:							
Daily average	85	86	88	94	91	90	
Month	2,629	2,398	2,734	2,818	2,811	2,710	16,100
TOW CREEK:							
Daily average	196	164	244	227	221	213	
Month	6,061	4,591	7,563	6,810	6,840	6,381	38,246
WELLINGTON:							
Daily average	439	429	440	431	440	432	
Month	13,633	12,013	13,646	12,924	13,640	12,954	78,801
Daily average	2,841	2,780	2,593	2,504	3,043	2,823	2,764
Total first six months 1934	88,065	77,836	80,388	75,132	94,308	84,689	500,418
Total first six months 1933	83,421	69,366	81,437	66,270	80,848	73,170	454,502
Total first six months 1932	107,384	104,052	111,817	101,580	100,440	89,520	614,793
Total first six months 1931	131,471	119,336	122,295	122,910	129,270	132,960	758,242
Total first six months 1930	151,187	146,860	144,274	133,590	137,175	136,950	850,036
Total first six months 1929	215,016	182,280	213,125	197,130	223,727	224,220	1,255,498
Total first six months 1928	234,636	232,625	259,563	202,610	204,382	218,940	1,353,756
Total first six months 1927	.....	.....	.....	.....	.....	.....	1,393,539

Montana

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BANNATYNE:							
Daily average	.....	.....	.....	25	29	.....	
Month	.....	.....	.....	757	900	.....	1,657
BORDER:							
Daily average	296	284	286	305	328	317	
Month	9,165	7,938	8,852	9,147	10,145	9,518	54,765
CAT CREEK:							
Daily average	655	651	650	648	691	647	
Month	20,293	18,223	20,168	19,447	18,631	19,410	116,172
CUT BANK:							
Daily average	1,537	1,713	1,807	2,026	2,499	2,216	
Month	47,641	47,971	56,006	60,776	77,473	66,472	356,339
DRY CREEK:							
Daily average	63	.....	.....	.....	.....	.....	
Month	1,955	.....	.....	.....	.....	.....	1,955
KEVIN-SUNBURST:							
Daily average	3,698	3,469	3,440	3,923	4,357	4,210	
Month	114,638	97,125	106,615	117,983	135,092	126,309	697,762
LAKE BASIN:							
Daily average	45	48	45	48	48	50	
Month	1,400	1,331	1,410	1,444	1,490	1,488	8,563
PONDERA:							
Daily average	921	865	883	865	881	816	
Month	28,549	24,201	27,383	25,950	27,313	24,490	157,886
SOAP CREEK:							
Daily average	.....	.....	.....	.....	145	.....	
Month	.....	.....	.....	.....	4,500	.....	4,500
Daily average	7,215	7,028	7,111	7,350	8,389	8,256	7,733
Total first six months 1934	223,641	196,789	220,434	235,504	275,544	247,687	1,399,599
Total first six months 1933	183,036	150,864	172,603	179,310	186,031	203,340	1,075,239
Total first six months 1932	173,549	166,273	189,224	223,830	233,647	210,050	1,196,703
Total first six months 1931	243,133	249,900	258,385	249,840	254,138	246,450	1,501,846
Total first six months 1930	353,456	323,408	367,561	288,410	304,172	249,350	1,646,357
Total first six months 1929	361,399	357,456	393,973	298,830	350,328	347,610	1,809,696
Total first six months 1928	363,370	339,679	358,113	350,520	338,373	313,280	2,063,213
Total first six months 1927	436,498	399,868	452,690	417,000	434,155	461,330	2,592,451

not yet been reached. At 4,777-4,802 feet it cut a hard sandstone which may have been the Muddy. There was more oil in this horizon, but it was not tested as the well is loaded with mud. Surface geology and core drilling indicated a closure of at least 2,500 feet. The next few hundred feet is expected to tell the tale and in any event it is probable another test will be drilled to take advantage of the information gained as to the unusual conditions in this well.

Another Important Test

An important wildcat on the West Mule Creek structure in Niobrara County, is being drilled by the Interstate Oil & Refining Co. and associated interests of Fall River, S. D., in its No. 1 Morrell, NW NE SE Sec. 2-39-61. It reached the objective horizon, a sand in the base of the Minnelusa, but found the sand to have thinned to an unimportant thickness. Whether this is the objective, or a stray sand is not entirely clear and the hole is to be drilled deeper below its present depth of 2,735 feet to be sure of the formation. On East Mule Creek the Argo Oil Co. found a 500-bbl. well at 3,100 feet. West Mule Creek is 700 to 800 feet higher than the east dome and a closed structure is proven not only by gas and showings in the deep test, but a number of small wells in the Dakota group of sands.

Deep Test in Torchlight

Another wildcat which made a deep test in the Torchlight Field in Big Horn County was in the Torchlight Oil Corp.'s No. 1, SW cor. SE Sec. 19-51-92. It started in the spring of 1928 with the intention of going to the Madison lime. While not particularly well located on the structure, it did reach the objective and had a saturated horizon in the Madison at 4,004-50 feet. It encountered sulphur water at 4,068 feet and had a wet hole above the saturation. While trying to shut off water and make a test, the tubing parted and two strings of fishing tools were lost. The hole finally was abandoned at 4,068 feet.

On January 1, 1934, the Salt Creek Producers Association and the Mountain Producers Corp., the principal leaseholders in Salt Creek, took over the operation of their properties from the Stanolind Oil & Gas Co., successor to the Midwest Refining Co., upon expiration of the contracts under which the properties were operated without expense to the holding companies. The Stanolind continues to operate the properties under the supervision of the companies on a cost basis and the change reflects very little difference in the income of the Salt Creek companies.

In March and April all of the properties of the Producers & Refiners Corp. in Wyoming, as in other states, were sold at receivers' sales to the Sinclair Consolidated Oil Corp., the sole bidder. The Sinclair company inherited from the Prairie Oil & Gas Co. at the time of their consolidation $14,000,000 of indebtedness of the Producers & Refiners. The bid price just about equalled the indebtedness.

UTAH

Summary of Wells Completed First Six Months of 1934

County—	Comp.	Prod.	Dry	Gas
San Juan	3	0	3	0
Total	3	0	3	0
Same period 1933	4	2	2	0
Difference	1	2	1	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	3	0	3	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
June	0	0	0	0
May	0	0	0	0
Total	3	0	3	0

Wyoming

Daily Average and Monthly Production First Six Months of 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BIG MUDDY:							
Daily average	1,754	1,649	1,702	1,673	1,804	1,796	
Month	54,391	46,179	52,799	50,182	55,931	53,868	313,350
DALLAS-DERBY:							
Daily average	597	602	598	598	600	602	
Month	18,521	16,846	18,530	17,944	18,611	18,063	108,515
DUTTON CREEK:							
Daily average	93	96	77	84	40	90	
Month	2,871	2,683	2,374	2,534	1,250	2,706	14,418
ELK BASIN:							
Daily average	576	583	581	583	549	587	
Month	17,858	16,303	18,004	17,490	17,015	17,610	104,280
FERRIS:							
Daily average	17	.....	18	20	41	20	
Month	516	.....	567	589	1,269	596	3,537
FRANNIE:							
Daily average	1,021	1,286	1,182	1,398	1,351	2,060	
Month	31,658	36,007	35,078	41,937	41,252	61,809	247,741
GRASS CREEK:							
Daily average	651	604	648	655	1,347	1,275	
Month	20,170	17,765	20,100	19,647	41,766	38,244	157,692
HAMILTON:							
Daily average	674	643	610	599	968	766	
Month	20,901	17,994	18,926	17,962	30,017	22,981	128,781
LABARGE:							
Daily average	958	923	922	931	1,185	1,140	
Month	29,694	25,855	28,623	27,918	36,729	34,211	183,030
LANCE CREEK:							
Daily average	245	243	306	325	327	314	
Month	7,593	6,802	9,488	9,757	10,131	9,416	53,197
LOST SOLDIER:							
Daily average	1,465	1,465	1,632	1,454	1,535	1,211	
Month	45,417	41,032	50,598	43,621	47,601	36,317	264,586
POISON SPIDER:							
Daily average	171	189	168	239	842	241	
Month	5,298	5,301	5,194	7,169	26,088	7,239	56,284
OREGON BASIN:							
Daily average	540	704	439	1,319	2,588	2,010	
Month	16,765	19,705	13,598	39,565	80,230	60,288	230,151
OSAGE:							
Daily average	871	983	859	831	966	893	
Month	26,996	26,130	26,631	24,933	29,940	27,004	161,634
ROCK RIVER:							
Daily average	1,525	1,511	1,516	1,466	1,469	1,549	
Month	47,271	42,322	46,988	43,980	45,539	46,470	272,570
SALT CREEK:							
Daily average	16,536	18,149	18,676	18,383	18,390	18,110	
Month	512,610	508,189	578,966	551,496	586,525	543,291	3,281,077
GARLAND:							
Daily average	320	509	662	8	350	130	
Month	9,904	14,254	20,560	244	10,851	3,890	59,703
PILOT BUTTE:							
Daily average	29	30	29	29	25	11	
Month	908	840	902	874	775	341	4,640
TEAPOT:							
Daily average	26	22	25	28	28	30	
Month	806	619	756	844	876	907	4,808
GREYBULL:							
Daily average	9	.....	.....	.....	.....	.....	
Month	292	.....	.....	.....	.....	.....	292
MIDWAY:							
Daily average	104	114	154	83	74	88	
Month	3,233	3,200	4,668	2,487	2,304	2,646	18,538
BADGER BASIN:							
Daily average	43	45	42	44	44	43	
Month	1,320	1,264	1,300	1,364	1,362	1,281	7,891
HUDSON:							
Daily average	211	316	228	235	381	319	
Month	6,542	8,853	7,086	7,059	11,978	9,576	51,094
REX LAKE:							
Daily average	.....	.....	.....	.....	19	.....	
Month	.....	.....	.....	.....	577	.....	577
EAST BYRON:							
Daily average	446	525	362	232	72	71	
Month	13,819	14,705	11,234	6,952	2,226	2,130	51,066
BLACK MOUNTAIN:							
Daily average	.....	.....	.....	.....	335	416	
Month	.....	.....	.....	.....	10,390	12,492	22,882
SPRING VALLEY:							
Daily average	.....	.....	.....	.....	10	10	
Month	.....	.....	.....	.....	300	292	592
Daily average	33,882	31,173	31,386	31,218	35,855	33,789	32,060
Total first six months 1934	895,359	872,843	972,970	936,548	1,111,535	1,013,668	5,802,926
Total first six months 1933	979,290	855,668	968,750	898,860	934,960	899,850	5,537,378
Total first six months 1932	1,010,445	1,093,097	1,189,997	1,103,310	1,157,323	1,048,080	6,602,252
Total first six months 1931	1,358,254	1,254,568	1,264,366	1,329,290	1,329,652	1,278,720	7,814,930
Total first six months 1930	1,430,898	1,409,184	1,537,665	1,527,930	1,565,233	1,456,850	8,927,810
Total first six months 1929	1,512,087	1,442,336	1,599,104	1,490,430	1,581,806	1,520,160	9,145,923
Total first six months 1928	1,756,505	1,598,602	1,714,899	1,748,520	1,908,918	1,834,410	10,561,844

Refined Oil Prices Were at Higher Levels

(Continued from Page 67)

1.46 cents for the whole of 1933. This is an increase of nearly 50 per cent. Fuel oil prices showed equally favorable advances in California and along the Gulf Coast.

Diesel oil and bunker fuel offered at New York points also showed substantial improvement in price. As an example, 28-30 Diesel fuel sold at an average of $1.948 per barrel during the first six months of this year to be compared with an average of $1.76 for 1933 and against an average of $1.65 for the first six months of 1933.

Lubricants

Neutral oils enjoyed a slowly rising market in Oklahoma, Pennsylvania and the East throughout the entire six months' period of 1934 to date.

Bright stocks were gradually advanced in Oklahoma, Pennsylvania and along the East Coast during this period but prices suffered a slight general setback in the middle of June. This market seems to be well under control, however, and the recent weakness is not considered serious.

Wax

Wax has shown a tendency to weaken over the six months' period under study. The Oklahoma price has gone from 3¾ cents a pound on January 1 to 3¼ cents at the end of June. The New York market did not reflect this trend early in the year and 120-122 (a.m.p.) wax went from 4.3 cents per pound on January 1 to a top of 4.6 cents per pound on March 1. From then on, however, the New York wax market weakened and closed the first six months' period of 1934 with an average price just slightly under that at the beginning.

Export Market

Refiners operating plants on deep water have enjoyed a slightly higher average export price for gasoline in the first six months of this year than that of 1933. The Gulf Coast average was up more than the Los Angeles average. However, this might be expected because of the unusually bad conditions resulting from the East Texas competition offered a year ago in the Gulf Coast business.

Use Plug Type Valves for Numerous Purposes

(Continued from Page 65)

size, but tested for 5,000-pound pressure also.

Deep Wells in Iowa Field, La.

The Barnsdall Oil Co. has completed some wells in the Iowa Field on the Calcasieu-Jefferson Davis Parish line in Louisiana in a deep horizon at 6,900-7,000 feet in the Marginulina zone of the Oligocene and flowing under high pressures. Standard design christmas trees are used with Merco-Nordstrom plug valves, one controlling the flow from the tubing and the other connected to the discharge from the casing. Both lines discharge into a common line leading to the oil and gas separator.

Another interesting test in the lower Gulf Coast area, Texas Co.'s No. 8 McFaddin, in southwestern Victoria County, used two 7-inch, 3,000-pound Merco Nordstrom plug valves, one valve on each 7-inch line, close to the cross and the other at the end where the flow line discharges into the ditch. This hookup was for control during the drilling operations and complete details were given in The Oil and Gas Journal, February 22, 1934, page 15.

Plug valves lend themselves admirably to all types of field connections because of the fact it is easy to determine exactly which valves are open and which closed by the position of the handle on the extension of the stem. The wrenches may be left attached to the valves if desired and this permits the operator to tell at a glance the position of the valve plug and whether the valve is open or closed.

GRAVER

FABRICATORS TO THE OIL INDUSTRY

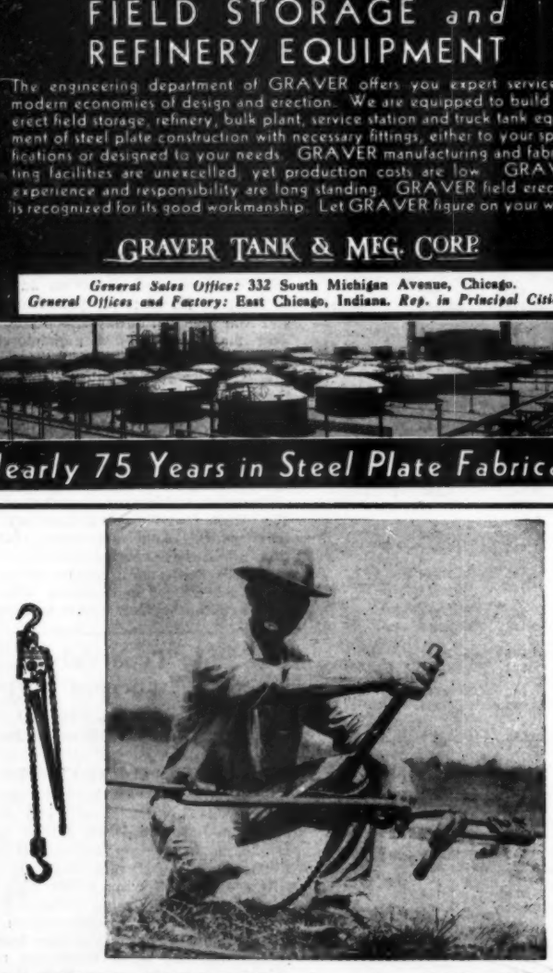
FIELD STORAGE and REFINERY EQUIPMENT

The engineering department of GRAVER offers you expert service in modern economies of design and erection. We are equipped to build and erect field storage, refinery, bulk plant, service station and truck tank equipment of steel plate construction with necessary fittings, either to your specifications or designed to your needs. GRAVER manufacturing and fabricating facilities are unexcelled, yet production costs are low. GRAVER experience and responsibility are long standing. GRAVER field erection is recognized for its good workmanship. Let GRAVER figure on your work.

GRAVER TANK & MFG. CORP.

General Sales Office: 332 South Michigan Avenue, Chicago.
General Offices and Factory: East Chicago, Indiana. *Rep. in Principal Cities.*

Nearly 75 Years in Steel Plate Fabrication



A NEW HELPER in the OIL FIELD

This hoist is a rachet type, using special Diamond roller chain and built with swivel hooks. The lever can be changed from one side to the other making it possible to use the hoist either end up, laying down, or in any position, for lifting or pulling.

The Oil Producers have found the Coffing Hoist to be a superior tool for their work on account of its light weight and compactness, and it is easy to operate.

They use them for picking up rod lines to oil wells, skidding engines, boilers and any cumbersome equipment into place, loading trucks, erecting rigs, or wherever a lift or pull is needed.

Capacities from ¾-ton to 6-ton; weights from 14 lbs. to 65 lbs.

These hoists can be obtained from our representatives:

The Drillers Supply Co., Wichita, Kansas—Norvell-Wilder Supply Co., Beaumont, Texas—Standard Supply & Hardware Co., New Orleans, La.—Young & Vann Supply Co., Birmingham, Ala.—Pacific Wire Rope Co., Los Angeles, Calif.—Pittsburgh Gage & Supply Co., Pittsburgh, Pa.—Trimble & Lutz Supply Co., Wheeling, W. Va.—The Bittenbender Co., Scranton, Pa.—Iverson Tool Co., Tulsa, Okla.

Manufactured by

COFFING HOIST COMPANY
DANVILLE, ILLINOIS.

Western Canada Fields Show Increase in Production Over Same Months in '33

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

In the first six months of 1934 crude oil production in the Canadian fields showed a marked increase over 1933 figures. This was due largely to the increased output of the Turner Valley Field, where extensive drilling is under way in the new southerly extension of the field.

The official production figures for all Canadian fields cover only the first four months of 1934. The comparative figures in barrels are as follows:

	1933 (bbls.)	1934 (bbls.)
January	82,778	124,425
February	73,087	116,546
March	87,218	130,046
April	84,974	118,890
Total (4 months)	328,057	489,907

Comparative figures of production for the individual provinces for the same four months are given below:

	Jan.-April 1933	Jan.-April 1934
New Brunswick	3,642	4,028
Ontario	41,962	43,196
Alberta	282,453	442,684

It will thus be seen that all provinces show increases in this period.

The Alberta production is available for the first five months of 1934, and is detailed as follows:

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)
Turner Valley naphtha	105,946	103,048	113,030	102,091	99,750
Turner Valley light crude	2,332	1,706	3,298	1,765	1,544
Red Coulee light crude	2,047	1,684	1,975	2,080	2,032
Wainwright heavy crude	391	359	425	507	1,272
Total	110,716	106,797	118,728	106,443	104,598

Natural Gas Production

While crude oil production is on the upgrade, natural gas production for all Canadian fields for the first four months of 1934 continues to indicate a slight decline from the low figures of the previous year. The comparative figures for the four-month period in thousands of cubic feet are as follows:

	1933 (M.C.F.)	1934 (M.C.F.)
January	2,945,452	2,961,453
February	2,826,995	2,697,423
March	2,497,762	2,598,738
April	2,222,556	2,177,805
Total	10,492,765	10,435,419

Turner Valley Situation

Modification more than a year ago of the conservation measures originally adopted for the Turner Valley Field has apparently stimulated production and encouraged new drilling. At the same time, statements of the lands and mines department at Edmonton indicate that operators are conforming to the modified requirements and as a consequence gas wastage has been materially reduced. Practically all wells are now metered, with wet gas production restricted to 40 per cent of open flow; with the proviso that the gas production of the field shall be limited to around 240,000,000 feet a day.

Comparative figures of deliveries from the Turner Valley Field to the Imperial and Bell refineries at Calgary for the first six months of 1933 and 1934 are as follows:

	1933 (bbls.)	1934 (bbls.)
January	42,989	90,267
February	38,807	89,409
March	48,900	94,722
April	45,763	88,874
May	64,601	87,689
June	67,072	*85,000
Total	309,132	535,963

*Estimated.

On the basis of the first six months, and with a prospect of several new completions and the operation of a second gasoline absorption plant, production in the last half of 1934 should be considerably increased, so that refinery deliveries alone for the year ought to run considerably in excess of 1,000,000 bbls. To this must be added direct sales at the well head. These might run close to 4,000 bbls. a month.

Royalite Oil Co.'s Activities

The actual increased production of the field is largely due, however, to the operation of the Royalite Oil Co.'s absorption plant. This plant, which started operations in May, 1933, was largely extended later in the year and now handles upwards of 115,000,000 feet a day. It handles production of the Royalite wells and those of some subsidiary and associate companies, chiefly in the Central Turner Valley area, where decreasing rock pressures and naphtha content make it difficult to secure a satisfactory naphtha recovery with ordinary separators. Operations of the plant have been so successful that Gas & Oil Products, Ltd., has been organized to construct a similar plant in the South Turner Valley area, to handle the output of a number of independent operators. This company, controlled by Mercury Oils, Ltd., has commenced construction of its plant which is to start operations in August.

An important feature in connection with the Turner Valley Field has been the gradual and systematic acquisition by Royalite Oil Co. of the deep lime rights of many of the smaller companies, chiefly in the Central Turner Valley area and the old Home section of South Turner Valley. In most instances the consideration has been a block of Royalite stock, though in some cases cash payments have been made. In most cases the rights to take crude oil from the horizons above the lime have been retained by the vendors, the Royalite company being interested solely in the naphtha production from the lime.

Royalite's Purchases

Among the companies whose deep lime rights have been taken over are Okalta Oils, Ltd., New McDougall Segur Oil Co., McDougall-Segur Exploration Co. and British Dominion Oil & Development Corp. in the central feld; and Alberta Pacific Consolidated Oils, Ltd., Calmont Oils, Ltd., Wellington Oil & Gas Co., Commonwealth Petroleums, Sterling Pacific Oil Co. and others in the south field. Acquisition of these rights will enable the Royalite company to shut in unprofitable small wells, concentrating on production from those which give the best results, and also in some cases to avoid the drilling of expensive offsets.

Turner Valley Drilling

The outstanding feature of recent Turner Valley drilling has been the gradual southward extension of the proven field. More than a year ago Section 28-18-2w5 was proven productive by the drilling of Mar-Jon-Freehold's No. 1. Since then the proven area has been extended still farther south into Section 21-18-2w5, and quite recently a location was made as far south as Section 16-18-2w5.

Section 28-18-2w5 is still, however, the scene of the greatest activity, with a well drilling or located on practically every subdivision. The most important completion in this section was Becker Syndicate's No. 2 Anaconda, LSD 15, with initial production around 400 bbls. Farther south, Mar-Jon Oil Co.'s No. 2, LSD 10, got around 50 bbls. a day in the lime. In the same section there is one test drilling in the lime with eight drill-

ing in the upper horizons, one shut down and two or three new locations.

Probably the most important recent development has been secured by Highwood-Sarcee Oils' No. 1 in LSD 16, Section 21-18-2w5. This test got a big flow of light crude in the Dalhousie, and on deepening into the Madison developed 20,000,000 feet of wet gas with estimated potential naphtha recovery of 240 bbls. a day. The test has not yet got the main porous horizon of the lime, and is going deeper for a thorough test.

Earlier in the year, Hoffar-Lundy Syndicate's No. 1, LSD 13, Section 22-18-2w5, discontinued drilling, the log indicating it was too far east and off structure. The Highwood-Sarcee strike has, however, encouraged activity farther south in Section 21 where four other tests are already drilling, while Okalta Oils, Ltd., has located a new venture still farther south in Section 16-18-2w5.

East of Section 28, Northwest Co's No. 1 Calgary & Edmonton-Longview has been finished in LSD 5, Section 27-18-2w5. This was the only test drilled by Imperial Oil, Ltd., in more than a year. While exceptionally deep, it proved the lime for a considerable area east of the proven field, finishing at 6,220 feet, some 628 feet in the lime, with a small gas flow and a naphtha recovery around 20 bbls. a day.

In the older section of South Turner Valley, Mercury Oils' No. 6, LSD 12, Section 4-19-2w5, standing unfinished for some years, is being completed. Some work has been done on Associated Royalites' No. 1 Spray, LSD 9, Section 5-19-2w5, on the west side of the structure. Nolan-Hungerford Royalties, Ltd., is rigging up to finish Rand Petroleums' No. 1 in LSD 5, Section 34-18-2w5.

In the Central Field there has been little activity. Okalta Oils' No. 4, LSD 8, Section 1-20-3w5, was drilled to test the light crude horizons above the lime but failed to get production. New McDougall-Segur Oil Co.'s No. 7, Section 12-20-3w5, is drilling to test the same horizons. North Turner Valley has been quiescent; though Phillips Petroleums' No. 1, LSD 16, Section 16-20-3w5, has been located on a subsidiary fold a little to the west.

Drilling in Ontario

Drilling activity in Ontario is more widespread than in other recent years. Much interest was aroused early in the year by a strike of crude oil at shallow depth in Brooke Township, Lambton County, indicating the possibility of a new shallow pool between the Petrolia and Mosa Fields. Probably 20 similar tests have been drilled since the discovery in various parts of Brooke Township, the latest being a dry hole finished by George Willets & Son just south of the discovery. Some 12 tests got production, but only one or two wells showed a real sand, the remainder being "top show" oil which failed to hold up. Most of the wells are shut down owing to inability of the small pumps originally installed to handle the water and get satisfactory oil production.

Meanwhile, a shallow test by Laddwill Oil Co. of Detroit in Euphemia Township, east of the Dawn gas field, finished dry. Some shallow drilling is also being done in the Bothwell and Thamesville areas of Kent County.

Another outstanding feature was a strike of pure sulphur by American Engineering Co. on the Kerr farm, Lot 21, Concession 1, Moore Township, Lambton County. The sulphur was 33 inches thick and 100 per cent pure, but a second test a little southeast is encountering different formations and the area may be too limited for commercial production.

Drilling for gas is being carried on in most of the proven fields. In the Dawn Field, Lambton County, five new tests have been completed by Union Gas Co. Three were dry holes, one got about 250,000 feet of gas, and another a shot production about 500,000 feet. West of the field, Union No. 75 test in Sombra Township failed to get production. The Union company deepened two old producers without increasing production, and was continuing its No. 3 as a test of the Trenton limestone.

In the Dover Field, Kent County, Prairie Oil & Gas Co.'s No. 2, Stephens farm, is standing at 1,035 feet. On the Antaya farm, Ajax Oil & Gas Co.'s No. 7 got a small show in the Trenton lime, was shot, and ultimately abandoned. No. 8, however, proved a big gasser, with a shot production estimated 2,500,000 feet a day.

In the Tilbury Field, Ralph Dawson is drilling a test near Merlin, while farther east Union Gas Co.'s No. 22 in the D'Clute Field finished dry, and No. 23 was a good gasser.

In Sarnia Township, Lambton County, Leo Wilson Syndicate's No. 1 deep test in Lot 7, Concession 3, near Bunyan, looks like a dry hole at 2,900 feet.

Farther east a new gas producing area has been opened near Eden, in Norfolk County, by the Prairie Oil & Gas Co. of Toronto, headed by E. P. Rowe. Prairie's No. 1 got 162,000 feet a day, No. 2 finished dry, and No. 3, on the Mrs. E. Stillwell farm, finished good for 750,000 feet or more. Two additional tests are drilling. Erie Gas, Ltd., of Toronto, has some production in Norfolk near Port Dover. There has been quite a bit of drilling in the Haldimand Field, W. J. Hussey, drilling for a Detroit syndicate, having finished several good wells near Blackheath in Seneca Township.

Saskatchewan Drilling

An important development has been the opening of the first commercial gas field in Saskatchewan, on the Ribstone-Blackfoot structure near Lloydminster. Lloydminster Gas Co.'s No. 1, LSD 6, Section 11-50-28w3, finished at 1,974 feet with 16,750,000 feet a day open flow and 565 pounds rock pressure. Production will be piped to Lloydminster; while other interests are testing two widely separated areas on the same structure.

In the older sections of Saskatchewan, a number of new tests are mooted. Pine River Petroleums' No. 1, LSD 8, Section 23-12-24w3, on the Dirt Hills structure southwest of Regina, is being completed from 2,938 feet, while Blackfoot Oil & Gas Co. is drilling a test near Wilcox. In northern Saskatchewan, Trail Blazer Oil & Gas Co. is deepening its shallow test at Hudson Bay Junction and Senator Oil & Gas Co. of Ottawa is starting a well in the same area.

SUMMARY OF STATEMENTS MADE JULY 10, 1934, RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING JUNE 30, 1934

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat. Transit	452,974.25	302,409.26	971,078.62	599,528.35	663,746.18
S. W. Pa. P. L.	405,636.37	82,446.30	786,092.37	502,843.08	398,359.69
Eureka P. L.	915,464.13	288,012.89	321,940.43	268,287.38	295,717.61
Buckeye P. L. (Macksburg)	248,926.25	247,056.51	123,327.86	264,588.92	114,364.60
Buckeye P. L. (Lima, etc).	65,490.21	12,150.03	225,390.41	1,695.20	201,491.63
Buckeye P. L. (Cleveland).	2,606,986.15	71,526.46	2,230,711.13	1,549,767.94	817,855.94
Indiana P. L.	447,045.12	.....	1,339,179.80	978,788.45	339,609.21
Pure Oil Co.	720,411.00	726,837.00	45,995.00	839,812.00	.....
Southern P. L.	123,384.27	.....	112,798.19	45,994.62	55,773.57
Bradford Trans.	287,234.18	484,575.63	.....	514,920.81	.....
N. Y. Transit	98,296.46	32,239.90	151,392.45	193,224.05	.....
Northern P. L.	185,674.30	.....	436,550.07	117,528.92	354,822.00
Tide Water P. L.	789,183.06	22,148.26	423,421.36	425,649.20	.....
Tuscarora Dev.	4,130.13	.....	.....	231,782.05	.....
Valvoline P. L.	94,811.03	75,812.97	.....	57,796.38	24,996.38
Other companies	132,517.21	303,837.13	10,200.00	214,562.53	.....
Total June 30	7,578,364.12	2,649,052.33	7,168,106.74	6,506,869.78	3,266,635.71
Total May 31	7,663,867.52	2,768,863.53	7,119,992.38	6,630,739.69	3,402,185.95
Difference	85,503.40	119,911.20	48,114.36	176,130.69	141,550.24

Closes tightly, releases promptly

YOU never need to strain hard on the handwheel of a Kennedy Valve to close the valve tightly or to start it open. The efficient design and accurate fit of the disc mechanism assure effective operation at all times.

This is one of the many advantages of standardizing on Kennedy Valves, for their sturdy proportions and special design features make these valves the favorite wherever they have been installed.

Kennedy Valves are built for all pressures used in the oil and gas industries and are obtainable through your local supply house. The many different types are described in the Kennedy catalog which will be sent on request.

THE KENNEDY VALVE MFG. CO., Elmira, N. Y.
Branches in principal cities.

KENNEDY
VALVES-PIPE FITTINGS-FIRE HYDRANTS

Pipe Line Construction in 1934 Largely Made Up of Short Lines Connecting the Nearby Pools

The volume of pipe line construction, both gas and oil, in the first half of 1934, was not equal in length to one of the many long pipe lines built in the days when West Texas was booming and later when East Texas brought about the building of long lines to northern and eastern refining centers. As a matter of fact most of the lines constructed this year were of pipe that had been taken up elsewhere, cleaned and re-laid.

The longest line laid in Kansas gave short-time employment to about 2,000 men. It was the Stanolind Pipe Line Co.'s line from Eldorado to Hudson and thence north to Raymond in Rice County where it tied into a line built by the company from Russell County pools. The pipe was reclaimed 8 and 6-inch which had been a line from Hominy, Osage County, to a point in Kansas.

The Stanolind Pipe Line Co. completed the extension of its western Kansas pipe line system to take in all oil fields between Raymond and Fairport, Russell County. At Raymond in Rice County the oil has been transferred to the Sinclair Prairie Pipe Line Co. for handling to Eldorado station. The western system now serves the following pools and oil fields listed in their order north of Raymond.

An 8-inch line extends north from Raymond to a point where a 6-inch line from Bushton, Rice County, meets a 3-inch line from the Sharpe Pool east of the main line, also in Rice County. West of Raymond a 4-inch line runs to Clarendon and a 3-inch line from Clarendon to Scheufler Pool, both fields in Barton County. The Steckel Pool is north of Raymond in Rice County and is served by a 3-inch line running east to the 6-inch main line.

At Bushton the 6-inch line extends northwest to the Fairport Field in Russell County. From Bushton a 4-inch line also extends to the northeast to Stratman Pool, Ellsworth County, and a 3-inch line branches off from just south of Stratman to secure the oil from the Stoltenberg Pool, also in Ellsworth County.

Several feeders terminate in the 6-inch main line between Bushton and the Fairport Field. A 4-inch line extends to the west to serve Ochs and Gideon Pools in Russell County. Another line runs to the northeast to the Hall Pool, also in Russell County. There are a number of pools in Russell County with 3 and 4-inch lines delivering the oil into the 6-inch main line. Gorham and Weiland Fields, Russell County, are to the west of the main line and Mermis, Russell County, is east of it, while the pool near Bronson lies to the north of the Fairport Field in Russell County, the terminus of the 6-inch main line.

New System Outlined

South of Raymond there is a 4-inch line that runs to Hudson, Stafford County, southwest of Raymond, and this line will be parallel by an 8-inch line, the western end of the new system. A combination 8-inch and 10-inch line will be laid from Hudson to Eldorado, with one intermediate station.

From the Eldorado station eastward to Humboldt the capacity of the present system was increased by the laying of approximately 47 miles of reclaimed 8-inch pipe. There now exists between Eldorado and Humboldt a 6-inch line that is to be left in place for the time being. A 20-mile loop 6-inch just east of Eldorado station is also available to the Stanolind Pipe Line Co.

This increase in the capacity of the system east of Eldorado permits the Stanolind Pipe Line Co. to handle about 3,000 additional barrels of crude oil per day, or increasing the system's capacity in Kansas to about 20,000 bbls. daily.

The Skelly Oil Co. completed a combination 6 and 8-inch line from the Burrton Pool in Reno County to the Cunningham Pool in Kingman County where the company has a good production. The White Eagle Oil Corp. laid a short 4-inch line from Section 6-28-1w, Sedgwick County, to a loading rack at Schulte.

The Salt City Gas Co. laid 10½ miles of 4 and 6-inch welded gas line from Section 23-23-4w, Burrton district, Reno County, to the Kansas State Reformatory at Hutchinson.

Little Work in Oklahoma

In Oklahoma very little pipe line work was done in 1934. The Langston, Fitts, Meeker and Wilzetta Pools were hooked up to pipe lines, but this work was all of the short-line variety.

The Stanolind Pipe Line Co. laid a line from Cushing to the Langston Pool in Township 17-1w, Logan County, about 12½ miles distant, and a short line into the Wilzetta Pool in Lincoln County.

The Shell Pipe Line Corp. gave the Meeker Pool in southern Lincoln County an outlet, and the Oklahoma Pipe Line Co. and the Texas Co. laid short lines in the Fitts Pool in southern Pontotoc County to hook up to new wells in that new pool, but the Stanolind Pipe Line Co. took over both lines and is taking all the oil from that pool.

The Cities Service Co. laid 6 miles of 6-inch welded line from Section 25-10-10, Okfuskee County, to Section 12-9-9, in the same county, where it connected with a main line to Joplin, Mo.

The Phillips Petroleum Co. laid two 4-inch lines from Bryant, in Section 32-11-12, Okmulgee County, to the NE cor. Section 4-12-12, in the same county, one an oil line and the other a gasoline line. They join the company's main line to its Okmulgee refinery.

Gulf Coast Lines

The only pipe line construction project of any size on the Gulf Coast or in Southwest Texas the first six months of the year was one for purposes other than the transportation of oil or gas. That was a line laid by the Southern Alkali Corp. to bring brine from the Palangana salt dome to its chemical plant at Corpus Christi. This line consisted of 61 miles of 14-inch pipe.

The next biggest project was a gas line, consisting of 20 miles of 8 and 10-inch pipe, which the United Gas System laid from the Conroe Field, Montgomery County, to Huffman station on the company's trunk line from Northeast Texas to Houston. Within the Conroe Field, considerable gathering line was laid both by the Midland Gasoline Corp. and the Humble Oil & Refining Co. to supply gas for their respective gasoline plants.

A large number of short lines, however, were laid on the coast, furnishing pipe line outlet for various new pools. Most of the lines were to loading racks. Pure Oil Co. laid approximately 3½ miles of 4-inch line from its Louise Field, Wharton County, to loading racks at the town of Louise. Humble Oil & Refining Co. has just completed 9 miles of 6 and 4-inch pipe from the wildcat producer which Quintana Oil Co. and Humble have just completed in Refugio County to Refugio, where the line ties into the company's main Pettus-Refugio-Ingleside line.

In Coastal Louisiana

In coastal Louisiana, Pure Oil Co. laid a line from the new Bosco Field which Superior Oil Producing Co. recently opened on a block owned jointly by Superior and Pure. The line extends to the Southern Pacific Railroad at Duson, a distance of approximately 5 miles, where the oil is moved by pipe line to Pure's refinery at Smiths Bluff.

Yount Lee Oil Co. laid about 2 miles of line from a semiwildcat well on the Hackberry Dome, Cameron Parish, Louisiana, to its barge loading docks on Kelso Bayou.

Shell Petroleum Corp. is laying about 20 miles of 6-inch welded line from its new Roanoke Field, Jefferson Davis Parish, Louisiana, to the Iowa Field, where it will connect with the company's line from that field to loading docks on Calcasieu River.

One mile of line was laid from the wildcat producer which was brought in by Encio Gas Co. at Vanderbilt, Jackson County, in the Texas Gulf Coast. The Encio properties have just been acquired by the Phillips Petroleum Co., of Bartlesville, Okla. The line extends to loading racks at the town of Vanderbilt.

Atlantic Pipe Line Co. is reconditioning 5 miles of line which crosses Corpus Christi Bay to its terminal on Harbor Island. This line is a part of the company's line from the Refugio and Greta Field.

In Southwest Texas, there were no new lines of any particular mention except possibly the new 4-inch gathering system which Sun Pipe Line Co. laid in the Los Cuevitas Field in northwest Starr County. The company also recently completed a 118,000-bbl. steel storage tank there, this being the largest tank in the district.

East Texas Construction

The majority of the pipe lining carried on in the East Texas Field during the year was the laying of gas lines from several casinghead gasoline plants built in various parts of the field. The Sinclair Prairie Oil Co. erected a large plant at Camps Switch, connecting with several hundred wells. This called for the laying of various size pipe from 2-inch to 22-inch, the former being used for return lines. The Hanlon Gasoline Corp. of Texas also laid a good many miles of gas lines, with return lines, to connect with its large plant northeast of Gladewater in Gregg County. Nine hundred wells were tied into these lines.

The Parade Gasoline Corp. extended its gasoline gathering lines for another 40 miles during the year, when the plant was enlarged. The Lisbon Gasoline Corp. erected its second plant in southern Rusk County and laid 35 miles of lines to several hundred wells in that part of the field, return lines to carry residue for repressuring leases, being laid also.

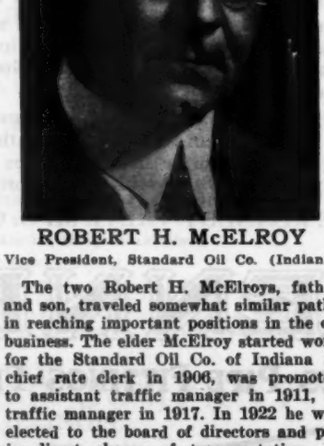
The Hercules Gasoline Corp. is considering another plant in Gregg County. The first plant of the company is now operating near Kilgore. When the second plant is erected many miles of gas gathering line will have to be laid to connect with many wells to supply the plant with the raw product.

Lines to Two New Pools

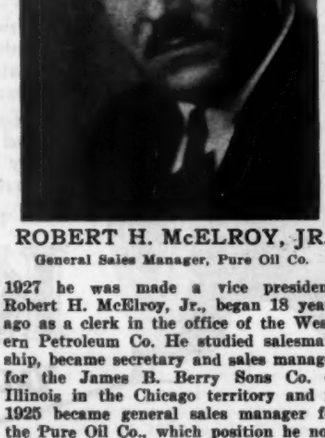
The Texas Pipe Line Co. laid two short connecting lines to as many different discoveries in the district during the year. The first line laid was about 3 miles to the Cayuga discovery of the Tide Water Oil Co. and Texas Seaboard Oil Co. in northwest Anderson County. This was a 4-inch line and connected with the pipe line company's North Texas-Gulf Coast carrier. The same company also connected with the Cherokee County discovery well of Wood and others 6 miles southwest of Rusk. About the same amount of 4 and 6-inch line was connected with this well. The gas well discovery south of Turlington in Freestone and the gas wells of the Shell Petroleum Corp. and others, in Leon County, are still unconnected.

The Lone Star Gas Co., United Gas

Father and Son Hold Important Posts in Oil Business



ROBERT H. McELROY
Vice President, Standard Oil Co. (Indiana)



ROBERT H. McELROY, JR.
General Sales Manager, Pure Oil Co.

The two Robert H. McElroys, father and son, traveled somewhat similar paths in reaching important positions in the oil business. The elder McElroy started work for the Standard Oil Co. of Indiana as chief rate clerk in 1906, was promoted to assistant traffic manager in 1911, to traffic manager in 1917. In 1922 he was elected to the board of directors and put in direct charge of transportation. In 1927 he was made a vice president. Robert H. McElroy, Jr., began 18 years ago as a clerk in the office of the Western Petroleum Co. He studied salesmanship, became secretary and sales manager for the James B. Berry Sons Co. of Illinois in the Chicago territory and in 1925 became general sales manager for the Pure Oil Co., which position he now holds.

Co. and a power company have been dickering with the Tide Water Oil Co. and Texas Seaboard Oil Co. for their gas in the Cayuga and Long Lake Pools of Anderson County. So far no deal has been consummated although there is the probability that the latter pool may be connected with a gas gathering line during the next six months.

Mexia to Huffsmith

Stanolind Pipe Line Co. looped its Mexia-Gulf Coast line from Mexia to Huffsmith, laying 19.1 miles of 8-inch, which raised the capacity of the main carrier from 38,000 to 45,000 bbls. daily. Extra pumping station equipment was also added to various stations on the line.

In West Texas

About the only line laid in the West Texas district during the six months' period was 17 miles of combination 2, 3, and 4-inch, dug up from the Pecos Valley Pool in Pecos County to a loading rack on the Santa Fe to the south, and relaid north to connect with the Atlantic Pipe Line Co.'s line connecting with the southern Ward County area. Connection was made in Section 17, Block 5, H.&T. C. Survey.

The Humble Pipe Line Co. extended its line to some leases in the Noodle Creek Pool, Jones County, to take oil that had been going to the Trentex Refining Co.'s small plant at Trent. This led to the dismantling of that plant.

The Lubbock Refining Co. was organized during the year to erect a 250-bbl. skimming plant on the Fort Worth & Denver Railroad at Lubbock to process oil produced in the Boren Pool in Garza County. The oil was shipped in by tank car to the plant, and the products distributed locally.

One New Panhandle Line

The Texas Pipe Line Co. laid the only pipe line that has been laid in the Panhandle district for several years. This line consisted of 12 miles of 6-inch and extended from Lefors in Gray County to the Texas Co.'s Carwile lease in Section 51, Block 24, H.&G.N. Survey, in Wheeler County.

Short gathering lines were laid into various newly discovered areas in the Wichita Falls district during the year, principally in the lime areas of Archer County. One of the longest laid was a 7-mile 3-inch line put down by the Sinclair Prairie Pipe Line Co. to connect with the Justice Pool southeast of the Falls County School Lands in the southern part of the county.

Ten miles of 3-inch line was laid by Hoffman and Page of Cisco to connect a shallow producing area of Callahan County with the Octane Refining Co. at Chautauqua switch. The Lone Star Gas Co. later took over this line from the constructors.

In the Rocky Mountain Fields

The principal oil pipe line construction in the Rocky Mountain area centered in northern Montana where two systems to furnish outlets for Cut Bank crude are under way. Early in the year the Texas Co. purchased the Santa Rita Oil & Gas Co.'s 10-mile gathering system in the field and short line to the railroad at Cut Bank, with loading racks and tankage. This was followed in March by the incorporation of the International Pipe Line to build a 27-mile 6-inch line from the field to the International refinery at Sunburst. Both of these companies are subsidiaries of the Texas Corp. Contract for the line was let to Roger O. Moore & Co. of Shelby, and construction is to be finished by August 1. It represents an investment of $150,000, and will furnish crude for the International refinery at Sunburst. Upon completion of the line it is probable an extension of 8 to 10 miles to the southeast will be built to gather crude from new wells recently completed in that area.

The Toronto Pipe Line Co., a subsidiary of the British-American Oil Co., Ltd., of Toronto, incorporated in Montana early in June and let contract to Ford, Bacon & Davis, Inc., of New York, for a 30-mile 6-inch line from the Cut Bank Field to Coutts, Canada, just across the line. Work is under way and the line is scheduled for completion by August 1. The project includes a complete gathering system in the field, several 55,000 and 80,000-bbl. tanks and pumping station Section 20-34n-6w, about 7 miles north of Cut Bank. The gathering system will consist of 4-inch pipe and it will be extended to the new South Cut Bank area. This system will furnish crude for the British-American refinery at Coutts and the plant it recently acquired at Moose Jaw. An extension of the line from Coutts to Moose Jaw is under consideration and may depend upon the outcome of a controversy as to freight rates. The Imperial Oil, Ltd., owns a half interest in the Cut Bank-Coutts project. Last named company is a large purchaser of crude in the Montana fields for its Canadian refineries.

The Illinois Pipe Line Co. began in April the abandonment of its 16-mile 6-inch line from the Kevin-Sunburst Field to the Northwest Stelarene Refining Co. plant at Shelby. The refinery has been shut down for several months.

Quiet in Wyoming

No important oil pipe line construction was reported in Wyoming. W. R. Weeks, of Denver, and George Brimmer of Cheyenne, made application to the Federal Government last fall for a loan for the construction of a pipe line from the Maverick Springs district in Fremont County, to railhead, to cost $525,000, but so far a deal for building the line has not been completed.

In Colorado, the Stanolind Oil & Gas Co. has made preliminary surveys and is investigating the feasibility of a 60-mile pipe line from the Iles Field to a rail connection at Glenwood Springs, or a 70-mile line northward from Craig to Wamsutter, on the Union Pacific Railroad in Wyoming. The purpose of such a line would be to furnish an outlet for Iles crude to the Utah Oil Refinnig Co. at Salt Lake City at a lower cost than the all-rail haul now required. No official announcement has yet been made as to the outcome of the investigations.

In New Mexico, the Getty Oil Co. constructed a 2-mile 6-inch line from the Getty Pool to the Atchison, Topeka & Santa Fe Railroad spur to the Potash Co. of America mine. Previous to the building of the spur and line, oil from the Getty Pool was transported by truck.

Gas Lines Were Few

Gas pipe line construction in the Rocky Mountain area was confined to a few small projects to supply local industries and extensions of existing systems.

In New Mexico, the Artesia Pipe Line Co., affiliated with the Southern Union Gas Co. and the Pecos Valley Gas Co., is completing a 40-mile extension of its system to the gas wells in the Maljamar area in western Lea County. The line has been completed and tested for a distance of 25 miles and 37 miles has been laid. It will supplement the gas supply for towns in the area between Carlsbad and Roswell.

The Eddy County Gas Co., a subsidiary of the El Paso Natural Gas Co., completed early in the year a 20-mile lateral line from a connection with the main system in the southeastern corner of Eddy County to the refinery of the United States Potash Co. near Loving, southeast of Carlsbad.

The Uinta Pipe Line Co., the transporting unit of the Western Public Service Co.'s system from the Hiawatha and Baxter Basin districts in northwestern Colorado and southwestern Wyoming into Utah, began early in the spring extensive work on approximately 200 miles of line in the nature of maintenance work. The line was uncovered, trussed up, cleaned and polished and painted. The work represented an expenditure of around $300,000 and gave employment to a force of 200 men.

The Billings Gas Co., affiliated with Ohio Oil Co., made extensive improvements in its system which supplies natural gas to Billings, Mont., and other towns from the Elk Basin and Dry Creek Fields. The line was enlarged with new welded pipe from the Yellowstone River crossing near Laurel to Billings, extensions were built to new subdivisions and betterments were made to the distributing systems. The cost involved was around $275,000, and gave employment to an average of 150 men.

The Illinois Pipe Line Co. began in January construction of a 6 and 8-inch 22-mile line from the Ohio Oil Co.'s gas wells in the Allen Lake Field in Carbon County, Wyoming, between Medicine Bow and Dutton Creek. At the last named place it connects with the line from the Dutton Creek Field to Laramie. The line from Allen Lake to Medicine Bow, a distance of 5 miles, was laid last year.

There are no major construction projects in sight at the present time. The Sultana Oil Co., of which E. J. Hubbert, of Great Falls, is engineer, obtained a franchise from the town council of Browning to supply that town with gas from the Cut Bank Field. It was also proposed to supply gas for drilling purposes in the oil field. Construction on this project has not been started. It will require 33 miles of pipe line and distributing system.

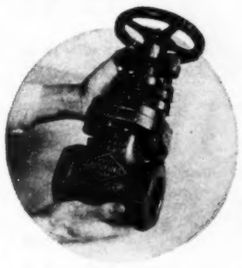
Application was made last March to the Federal Government for a loan to construct a project to supply Minneapolis and St. Paul with gas from Montana by the Wilmar Gas Co., controlled by the Continental Public Utilities Co. of Minneapolis. The estimated cost of the project was $17,000,000, but so far no progress beyond that stage has been reported.

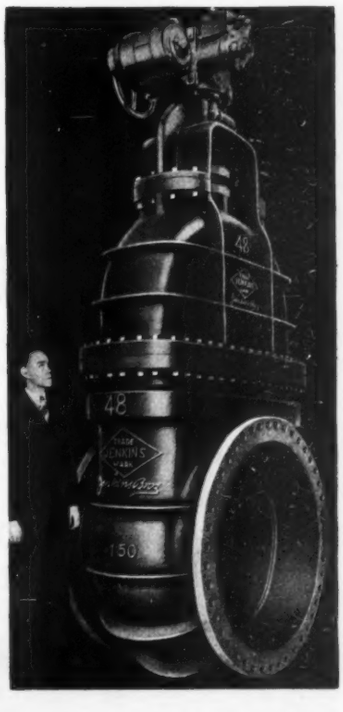
California's New Lines

No main trunk lines were laid in California during the first half of 1934 and while no large installations are projected during the next six months several minor laterals or feeder lines will be laid from the Mountain View Field of Kern County to existing facilities. The Union recently finished laying a 14-mile line from this field to its Maltha refinery at Bakersfield and the Standard is contemplating the immediate construction of a short connecting link of approximately the same length. Both lines are of 6-inch welded pipe. Within the field, the Lomita Gasoline Co. has completed a 4-mile 6-inch welded natural gas line from the Barnsdall's Mott lease in the eastern end of the field to its new natural gasoline plant located just northeast of the four corners. The Mohawk Petroleum Co. has also laid a short crude and natural gas line connecting up its various properties. The natural gas line terminates at the Mohawk natural gasoline plant which was moved up to Mountain View from Playa Del Rey a few months ago. The Standard Gasoline Co. has laid about 2 miles of new pipe line for the purpose of gathering wet gas for treatment in its plant in this field.

Whether you need

a 2" or a 48" Gate





In every size and type you'll find sound reasons for buying a "Jenkins"

Critical examination of any Jenkins Iron Body Gate Valve reveals the benefits of Jenkins skilled craftsmanship and 70 years of specialization in the manufacture of fine valves. In every size and type are found superiorities of design and construction which provide for exceptional gate valve service.

To show you these superiorities we offer a special cut-out which is an accurate replica of a Jenkins Standard Iron Body Gate Valve. It clearly illustrates and describes the many "fine points" of the valve. Also it provides a place to compare point-for-point with other Gates, enabling you to judge for yourself which one is the "best buy". It will pay to get the cut-out and learn what Jenkins offers. Write us if your supply house cannot furnish one.

In the Jenkins Catalog you will find a complete description of Jenkins Iron Body Gate Valves for most any need.

Sizes from 2" to 48", in Solid Wedge and Double Disc Parallel Seat types, and operated by motor, cylinder or special gearing arrangements.

JENKINS BROS., 80 White Street, New York; 510 Main St., Bridgeport, Conn.; 524 Atlantic Ave., Boston, Mass.; 133 No. Seventh St., Philadelphia, Pa.; 822 Washington Blvd., Chicago, Ill.; JENKINS BROS., Ltd., Montreal; London

Jenkins Valves

BRONZE—IRON—STEEL SINCE 1864

Crude Oil Price Changes First Six Months 1934

TEXAS PANHANDLE
Gray County*

Gravity—	Jan. 1
Below 35	$.79
35-35.9	.81
36-36.9	.83
37-37.9	.85
38-38.9	.87
39-39.9	.89
40 and over	.91

Posted by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co.

Note: Effective June 1, 1934, Texas Co. purchases Panhandle crude on a sweet and sour basis. Panhandle sweet crude is paid for on a basis of the Gray County prices posted above, and Panhandle sour crude is paid for on a basis of the Carson, Hutchinson, and Moore County prices.

(Carson, Hutchinson and Moore Counties)

Gravity—	Jan. 1
Below 35	$ 69
35-35.9	.71
36-36.9	.73
37-37.9	.75
38-38.9	.77
39-39.9	.79
40 and above	.81

Effective January 1, 1934. Posted by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., and Continental Oil Co.

NORTH, CENTRAL, AND EAST CENTRAL TEXAS

Gravity—	Jan. 1
Below 29	$.79
29-29.9	.81
30-30.9	.83
31-31.9	.85
32-32.9	.87
33-33.9	.89
34-34.9	.91
35-35.9	.93
36-36.9	.95
37-37.9	.97
38-38.9	.99
39-39.9	1.01
40 and over	1.03

Posted by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co.

CANADIAN FIELDS

	Jan. 1	Mar. 5	May 21
Petrolia	$2.10	$2.10	$2.10
Oil Springs	2.17	2.17	2.17
Turner Valley, Alta.:			
Clear naphtha	2.15	2.37	2.55
Discolored naphtha	2.91	2.63	2.31
40-44.9	1.50	1.50	1.50
45-49.9	2.07	2.07	2.07
50 and above	2.66	2.44	2.19

Posted by Imperial Oil, Ltd., and Regal Oil Co.

WEST TEXAS

	Jan. 1
Crane, Upton, Ector, Crockett, Howard, Glasscock and Mitchell	.70
Winkler and Pecos Counties and Lea County, New Mexico	.75
Pecos County, Yates shallow pool	.65

Posted by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

EASTERN STATES

	Jan. 1	Jan. 29	May 1
Bradford, Pa.	$2.45	$2.45	$2.55
Allegany, N. Y.	2.45	2.45	2.55

Posted by Tide Water Pipe Line Co.

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.45	$2.45	$2.55
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.12	2.12	2.22
Pennsylvania Grdae Oil in Eureka Pipe Line lines	2.07	2.07	2.17
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.92	1.97	2.07
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.32	1.32	1.32

Posted by South Penn Oil Co.

Pennsylvania Grade Oil in National Transit Lines:			
Group A	$2.37	$2.37	$2.47
Includes Cochran, Franklin, Hamilton and Doolittle districts.			
Group B	2.36	2.36	2.46
Includes Titusville district.			
Group C	2.35	2.35	2.46
Includes Turkey and Tidioute districts.			
Group D	2.34	2.34	2.44
Includes Bear Creek and Porkey districts.			
Group E	2.32	2.32	2.42
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.			
Price depends on length of pipe line to plant at Oil City.			

Posted by Pennzoil Co.

Cabin Creek, W. Va.	$2.17	$2.17	$2.17
Bradford Hollow, W. Va.	2.17	2.17	2.17
Kelly Creek, W. Va.	2.17	2.17	2.17

Posted by Pure Oil Co.

MEXICAN CRUDES

	Jan.	Apr.	May	June
Panuco heavy, f.o.b., Tampico	$.72	$.76	$.89¼	$.94

OKLAHOMA AND KANSAS

Gravity—	Jan. 1
Below 25	$.76
25-25.9	.78
26-26.9	.80
27-27.9	.82
28-28.9	.84
Below 29	.84
29-29.9	.86
30-30.9	.88
31-31.9	.90
32-32.9	.92
33-33.9	.94
34-34.9	.96
35-35.9	.98
36-36.9	1.00
37-37.9	1.02
38-38.9	1.04
39-39.9	1.06
40 and over	1.08

Posted by Stanolind Crude Oil Purchasing Co., Texas Co., Continental Oil Co. and Sinclair Crude Oil Purchasing Co., Magnolia Petroleum Co., Carter Oil Co., and Gypsy Oil Co.

EAST TEXAS

	Jan. 1
East Texas	$1.00

Effective September 29, 1933. Posted by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., Empire Oil & Refining Co.

CORSICANA

	Jan. 1
Corsicana	$.80

Corsicana effective June 17, 1933. Posted by the Magnolia Petroleum Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

	Jan. 1
Darst Creek	$.87
Luling	.75
Mirando	.80
Pettus	1.04
Salt Flat	.87
Lytton Springs	.95
Duval County	.90
Saxet	.85

Effective January 1, 1934, by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective January 1, 1934, in Darst Creek by Gulf Pipe Line Co. and Texas Co.

ROCKY MOUNTAIN STATES

	Jan. 1	May 1
Iles, light	$.96	$.96
Iles, heavy	.90	.90
Florence	.30	.30
Rock Creek, Wyo.	1.02	1.02
Frannie, light	.87	.70
Frannie, heavy	.62	.62
Big Muddy	1.01	1.01
Grass Creek	1.18	1.18
Elk Basin	1.18	1.18
Osage	.52	.52
Torchlight	1.18	1.18
Greybull	1.18	1.18
Cat Creek	1.07	1.07
Pondera	1.15	1.15
Sunburst	1.35	1.35
Hogback, N. Mex.	1.11	1.11

Posted by Stanolind Oil Co. and Ohio Oil Co.

SALT CREEK, WYOMING

	Jan. 1
Below 29	$.84
29-29.9	.86
30-30.9	.88
31-31.9	.90
32-32.9	.92
33-33.9	.94
34-34.9	.96
35-35.9	.98
36-36.9	1.00
37-37.9	1.02
38-38.9	1.04
39-39.9	1.06
40 and over	1.08

Posted by the Stanolind Oil & Gas Co.

MIDDLE WESTERN STATES

	Jan. 1	Jan. 5	May 26
Lima	$1.20	$1.30	$1.30
Illinois	1.23	1.13	1.13
Princeton	1.23	1.13	1.13
Plymouth		Shut in	
Western Kentucky	1.18	1.18	1.08
Midland, Mich.	1.02	1.02	1.02
Oceana, Mich.	.90	.90	.90
Somerset, Ky.	1.23	1.23	1.23
Hart County, Ky.	1.18	1.18	1.18

Midland, Mich. Posted by the Pure Oil Co.; Somerset, Ky., crude purchased by Ashland Refining Co.; Hart County, Ky., posted by Stoll Refining Co.; Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.; Western Kentucky posted by Ohio Oil Co.

GULF COAST

	Jan. 1	Jan. 11
Tomball	$1.15	$1.15
Livingston	1.00	1.00
Cleveland	....	1.00
Greta	.85	.85
Refugio Heavy	.85	.85

Tomball posted by Humble Oil & Refining Co., Magnolia Petroleum Co. and Stanolind Oil and Gas Co. Greta posted by Texas Co. Livingston posted by Shell Petroleum Corp. Refugio heavy posted by Humble Oil & Refining Co., and Cleveland by Magnolia Petroleum Co.

Degrees gravity—	1	2
Below 20	$.82	$.82
20-20.9	.84	.84
21-21.9	.86	.86
22-22.9	.88	.88
23-23.9	.90	.90
24-24.9	.92	.92
Below 25		
25-25.9	.94	.94
26-26.9	.96	.96
27-27.9	.98	.98
28-28.9	1.00	1.00
Below 29		
29-29.9	1.02	1.02
30-30.9	1.04	1.04
31-31.9	1.06	1.06
32-32.9	1.08	1.08
33-33.9	1.10	1.07
34-34.9	1.12	1.08
Below 35		
35-35.9	1.12	1.09
36-36.9	1.12	1.10
37-37.9	1.12	1.11
38-38.9	1.12	1.12
39-39.9	1.12	1.13
40 and over	1.12	1.14

Column 1—Posted by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Co., Pure Oil Co., Sinclair Prairie Oil & Marketing Co., and Magnolia Petroleum Co.

Column 2—Posted by the Texas Co.

CONROE

Gravity—	Jan. 1
35-35.9	$1.09
36-36.9	1.11
37-37.9	1.13
38-38.9	1.15
39-39.9	1.17
40 and over	1.19

NORTH LOUISIANA AND ARKANSAS

	Jan. 1	Jan. 13	Mar. 17
Smackover, Ark.	.70	.70	.70
Tullos-Urania, La.	.75	.87	.87
Nevada, Ark.	.60	.60	.60
East Eldorado, Ark.	.70	.70	.70
Converse, La.	...	...	*1.03
Elm Grove, La.	...	...	*.75
Holly, La.	...	...	*1.03
Pleasant Hill, La.	...	...	*1.03
Zwolle, La.	...	...	*1.03
Champagnolle, Ark.	...	...	*.81
Lisbon, Ark.	...	...	*1.03
Stephens, Ark.	...	...	*.70
Urbana, Ark.	...	...	*.60

*Initial posting.

Note: Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard Oil Co. of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East Eldorado posted by Magnolia Petroleum Co. and Gulf Refining Co.; Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co., Pleasant Hill by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Champagnolle by Standard Oil Co. of Louisiana and Lion Oil & Refining Co.

Caddo, La.

	Jan. 1	Mar. 17
Below 35	.63	...

STANDARD OIL CO. OF CALIFORNIA

(Prices January 1, 1934)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.66	.69	.66	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.73	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.66
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.82	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.73	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.92
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.03	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.03
29-29.9	1.06	1.06	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.05
30-30.9	1.09	1.10	1.13	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

25-25.9	.65	...
26-26.9	.67	...
27-27.9	.69	...
28-28.9	.71	...
Below 29	...	.79
29-29.9	.73	.81
30-30.9	.75	.83
31-31.9	.77	.85
32-32.9	.79	.87
33-33.9	.81	.89
34-34.9	.83	.91
35-35.9	.85	.93
36-36.9	.87	.95
37-37.9	.89	.97
38-38.9	.91	.99
39-39.9	.93	1.01
40 and above	.95	1.03

Posted by Standard Oil Co. of Louisiana.

Sabine-De Soto, La.

	Jan. 1	Mar. 17
Below 25	.69	...
25-25.9	.71	...
26-26.9	.73	...
27-27.9	.75	...
28-28.9	.77	...
Below 29	...	.79
29-29.9	.79	.81
30-30.9	.81	.83
31-31.9	.83	.85
32-32.9	.85	.87
33-33.9	.87	.89
34-34.9	.89	.91
35-35.9	.91	.93
36-36.9	.93	.95
37-37.9	.95	.97
38-38.9	.97	.99
39-39.9	.99	1.01
40 and over	1.01	1.03

Posted by Standard Oil Co. of Louisiana.

Sarepta-Carterville, La.

	Jan. 1	Mar. 17
Below 25	.75	...
25-25.9	.77	...
26-26.9	.79	...
27-27.9	.81	...
28-28.9	.83	...
Below 29	...	.79
29-29.9	.85	.81
30-30.9	.87	.83
31-31.9	.89	.85
32-32.9	.91	.87
33-33.9	.93	.89
34-34.9	.95	.91
35-35.9	.97	.93
36-36.9	.99	.95
37-37.9	1.01	.97
38-38.9	1.03	.99
39-39.9	1.05	1.01
40 and over	1.07	1.03

Posted by Standard Oil Co. of Louisiana.

Homer, La.

	Jan. 1	Mar. 17
Below 25	.71	...
25-25.9	.73	...
26-26.9	.75	...
27-27.9	.77	...
28-28.9	.79	...
Below 29	...	.79
29-29.9	.81	.81
30-30.9	.83	.83
31-31.9	.85	.85
32-32.9	.87	.87
33-33.9	.89	.89
34-34.9	.91	.91
35-35.9	.93	.93
36-36.9	.95	.95
37-37.9	.97	.97
38-38.9	.99	.99
39-39.9	1.01	1.01
40 and over	1.03	1.03

Posted by Standard Oil Co. of Louisiana.

El Dorado, Ark.

	Jan. 1	Mar. 17
Below 25	.75	...
25-25.9	.77	...
26-26.9	.79	...
27-27.9	.81	...
28-28.9	.83	...
Below 29	.85	.79
29-29.9	.87	.81
30-30.9	.89	.83
31-31.9	.91	.85
32-32.9	.93	.87
33-33.9	.95	.89
34-34.9	.97	.91
35-35.9	.99	.93
36-36.9	1.01	.95
37-37.9	1.03	.97
38-38.9	1.05	.99
39-39.9	1.07	1.01
40 and over	1.09	1.03

Posted by Standard Oil Co. of Louisiana.

Haynesville, La.

	Jan. 1	Mar. 17
Below 25	.65	...
25-25.9	.67	...
26-26.9	.69	...
27-27.9	.71	...
28-28.9	.73	...
Below 29	...	.79
29-29.9	.75	.81
30-30.9	.77	.83
31-31.9	.79	.85
32-32.9	.81	.87
33-33.9	.83	.89
34-34.9	.85	.91
35-35.9	.87	.93
36-36.9	.89	.95
37-37.9	.91	.97
38-38.9	.93	.99
39-39.9	.95	1.01
40 and above	.97	1.03

Posted by Standard Oil Co. of Louisiana.

Miller County, Ark.

	Jan. 1	Mar. 17
Below 25	.63	...
25-25.9	.64	...
26-26.9	.66	...
27-27.9	.68	...
28-28.9	.70	...
Below 29	...	.79
29-29.9	...	.81
30-30.9	.74	.83
31-31.9	.76	.85
32-32.9	.78	.87
33-33.9	.80	.89
34-34.9	.82	.91
35-35.9	.84	.93
36-36.9	.86	.95
37-37.9	.88	.97
38-38.9	.90	.99
39-39.9	.92	1.01
40 and over	.94	1.03

Posted by Standard Oil Co. of Louisiana.

Cotton Valley, La.

	Jan. 1	Mar. 17
Below 25	.70	...
25-25.9	.72	...
26-26.9	.74	...
27-27.9	.76	...
28-28.9	.78	...
Below 29	...	.79
29-29.9	.80	.81
30-30.9	.82	.83
31-31.9	.84	.85
32-32.9	.86	.87
33-33.9	.88	.89
34-34.9	.90	.91
35-35.9	.92	.93
36-36.9	.94	.95
37-37.9	.96	.97
38-38.9	.98	.99
39-39.9	1 00	1 01
40 and over	1.02	1.03

Posted by Standard Oil Co. of Louisiana.

Institute Production Committees Appointed

Announcement has been made from the division of production headquarters of the American Petroleum Institute at Dallas, Tex., of the appointment of the following committees for 1934:

Topical committee on development and production research (of the central committee on drilling and production practice):

National chairman, G. V. D. Marx, Standard Oil Co. of California, San Francisco, Calif.

California district: C. J. Coberly, chairman, Kobe, Inc., Los Angeles, Calif.; R. E. Allen, oil umpire's office; F. E. Davie, Shell Oil Co.; Donald E. Dickey, Broderick & Bascom Rope Co.; and John F. Dodge, University of Southern California, all of Los Angeles; Stanley C. Herold, 1330 Ethel Street, Glendale, Calif.; William N. Lacey, California Institute of Technology, Pasadena, Calif.; F. G. Tickell, Stanford University, Palo Alto, Calif., and Lester C. Uren, University of California, Berkeley, Calif.

Eastern district: R. D. Wyckoff, chairman, Gulf Research & Development Corp., Pittsburgh, Pa.; George H. Fancher, Pennsylvania State College, State College, Pa.; Charles R. Fettke, Carnegie Institute of Technology, Pittsburgh, Pa.; H. C. Fowler, U. S. Bureau of Mines, Washington, D. C.; J. Lewis, Pennsylvania State College, State College, Pa.; H. J. Lowe, Pure Oil Co., Newark, Ohio, and H. B. Soyster, U. S. Geological Survey, Washington, D. C.

Mid-Continent district: H. H. Power, chairman, Gypsy Oil Co.; L. G. E. Bignell, The Oil and Gas Journal; F. W. Floyd, Carter Oil Co.; C. V. Millikan, Amerada Petroleum Corp., and J. J. Zorichak, Stanolind Oil & Gas Co., all of Tulsa.

Southwestern district: F. E. Heath, chairman, Sun Oil Co., Dallas, Tex.; M. G. Cheney, Anzac Oil Co., Coleman, Tex.; R. H. Fash, Fort Worth Laboratories, Fort Worth, Tex.; Stanley Gill, Rusk Building, Houston, Tex.; T. V. Moore, Humble Oil & Refining Co., Houston, Tex.; F. B. Plummer, University of Texas, Austin, Tex.; R. B. Whitehead, Atlantic Oil Producing Co., Dallas, Tex., and H. D. Wilde, Jr., Humble Oil & Refining Co., Houston, Tex.

Rocky Mountain district: F. E. E. Germann, chairman, University of Colorado, Boulder, Colo.; Clark F. Barb, Colorado School of Mines, and B. B. Boatright, Colorado School of Mines, both of Golden, Colo.

Foreign: Joseph A. Holmes, Jr., Lago Petroleum Co., Maracaibo, Venezuela.

BUT . . . .

YOU CAN SLEEP PEACEFULLY WHEN YOUR TANKS ARE OCECO EQUIPPED

No tank equipped to OCECO specifications has ever been lost by fire.

THE OIL CONSERVATION ENGINEERING CO.
877 Addison Road Cleveland, Ohio

Summary of Operations in All Fields for June, 1934

Wells Completed

	Comp.	Prod.	Dry	Gas
Penna. Grade fields	223	2,075	5	38
Lima	17	164	9	2
Central Ohio	65	626	14	30
Indiana	21	395	11	1
Illinois	1	0	1	0
Kentucky	18	229	7	1
Michigan	44	21,957	7	5
Kansas	71	25,940	19	1
Oklahoma	155	55,759	48	5
North Central Texas	214	19,163	81	0
West Texas	40	220,649	6	1
East Central Texas	16	930	7	1
East Texas	341	21,249	5	1
East Texas gas area	2	0	2	0
Texas Panhandle	33	7,527	3	4
Southwest Texas	98	11,485	48	10
Texas Gulf Coast	100	36,234	43	4
Louisiana Gulf Coast	29	18,044	11	0
North Louisiana	33	1,022	10	13
Arkansas	9	760	4	0
Alabama	1	0	1	0
Mississippi	4	0	3	1
Montana	18	358	2	4
Wyoming	7	70	3	1
Colorado	2	0	1	1
New Mexico	10	7,648	3	0
Total June	1,572	452,784	357	124
Total May	1,526	415,261	359	98
Difference	46	37,523	2	26

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Pennsylvania Grade fields	85	213	298
Lima	3	29	32
Central Ohio	28	135	163
Indiana	1	38	39
Illinois	1	11	12
Kentucky	2	40	42
Michigan	99	144	243
Kansas	44	188	232
Oklahoma	105	422	527
North Central Texas	81	206	287
West Texas	47	120	167
East Central Texas	15	27	42
East Texas	48	284	332
East Texas gas area	1	11	12
Texas Panhandle	44	127	171
Southwest Texas	28	125	153
Texas Gulf Coast	30	182	212
Louisiana Gulf Coast	21	88	109
North Louisiana	32	91	123
Arkansas	8	36	44
Alabama	0	3	3
Mississippi	2	13	15
Montana	13	57	70
Wyoming	13	67	80
Colorado	5	32	37
New Mexico	14	60	74
Utah	1	14	15
Total June	771	2,763	3,534
Total May	871	2,749	3,620
Difference	100	14	86

Oklahoma Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Logan	1	9,967	0	0
Osage	46	16,086	12	0
Noble	4	11,390	0	0
Lincoln	8	4,038	3	0
Creek	18	136	10	0
Okmulgee	17	147	7	4
Muskogee	1	0	1	0
Okfuskee	4	90	1	0
Seminole	7	5,830	2	0
Pottawatomie	7	1,111	1	0
Hughes	6	265	2	0
Pontotoc	5	476	0	0
Oklahoma	7	5,412	0	0
Coal	1	0	1	0
Jefferson	1	40	0	0
Marshall	4	95	1	0
Carter	8	611	2	0
Stephens	5	47	1	0
Pawnee	1	0	1	0
Payne	1	18	0	0
Tulsa	1	0	1	0
McClain	1	0	1	0
Pittsburg	1	0	0	1
Total June	155	55,759	48	5
Total May	149	71,097	37	11
Difference	6	15,338	11	6

Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Atoka	3	9	12
Carter	5	18	23
Stephens	1	11	12
Johnston	0	1	1
Pushmataha	0	1	1
Jefferson	2	14	16
Choctaw	0	1	1
Marshall	0	10	10
Murray	0	2	2
Pontotoc	8	27	35
Comanche	0	6	6
Coal	0	1	1
Garvin	1	3	4
Pittsburg	0	5	5
Hughes	3	16	19
LaFlore	0	2	2
Pottawatomie	10	48	58
Seminole	1	23	24
Kiowa	0	2	2
Washita	0	1	1
Beckham	1	2	3
Cleveland	1	1	2
Okfuskee	4	11	15
Caddo	0	3	3
Oklahoma	9	35	44
Okmulgee	4	13	17
Lincoln	3	9	12
Muskogee	0	3	3
Creek	9	48	57
Kingfisher	1	1	2
Logan	2	6	8
Blaine	0	3	3
Payne	0	2	2
Tulsa	0	5	5
Wagoner	0	2	2
Pawnee	2	4	6
Osage	33	53	86
Noble	2	14	16
Ellis	0	1	1
Garfield	0	2	2
Alfalfa	0	1	1
Harper	0	1	1
Grant	0	1	1
Total June	105	422	527
Total May	115	409	524
Difference	10	13	3

Kansas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	7	307	3	0
Elk	2	78	0	0
Ellis	1	50	0	0
Ellsworth	1	0	0	1
Greenwood	10	169	6	0
Harvey	5	2,720	0	0
Kingman	2	369	0	0
McPherson	12	5,380	0	0
Phillips	1	0	1	0
Reno	8	6,907	1	0
Rice	13	7,562	4	0
Russell	4	995	1	0
Stafford	1	1,391	0	0
Trego	1	0	1	0
Woodson	3	12	2	0
Total June	71	26,940	19	1
Total May	45	16,039	10	2
Difference	26	9,901	9	1

Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Rooks	0	2	2
Osborne	0	1	1
Russell	4	10	14
Trego	2	1	3
Ellis	0	2	2
Dickinson	0	1	1
Ellsworth	0	4	4
McPherson	7	48	55
Rice	8	31	39
Rush	0	2	2
Barton	0	4	4
Stafford	1	2	3
Greenwood	1	4	5
Harvey	2	12	14
Reno	2	17	19
Butler	8	15	23
Sedgwick	5	12	17
Kingman	0	4	4
Harper	0	1	1
Barber	2	0	2
Sumner	1	2	3
Clay	0	2	2
Elk	0	5	5
Cowley	1	6	7
Total June	44	188	232
Total May	44	166	210
Difference	0	22	22

West Texas Fields

Summary of Operations

County—	Comp.	Prod.	Abd.	Gas
Ector	5	1,936	0	0
Fisher	3	2,228	0	0
Glasscock	7	7,620	0	0
Howard	3	1,303	0	0
Jones	1	1,440	0	0
Loving	1	47	0	0
Pecos	3	199,898	0	0
Upton	1	205	0	0
Ward	12	4,778	0	0
Winkler	4	1,194	0	0
Total June	40	220,649	0	0
Total May	37	112,763	6	1
Difference	3	107,886	6	1

Summary of Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl.
Andrews	1	1	2	4
Brewster	0	1	0	1
Coke	0	0	1	1
Crane	1	0	2	3
Culberson	1	1	0	2
Dawson	1	1	0	1
Ector	7	4	9	20
Fisher	3	2	5	10
Glasscock	6	2	5	13
Howard	8	3	7	18
Irion	0	3	0	3
Jones	2	1	6	9
Loving	1	1	4	6
Pecos	2	5	5	12
Reagan	0	1	1	2
Reeves	1	1	1	3
Runnels	1	6	4	11
Schleicher	0	0	1	1
Scurry	1	0	0	1
Terrell	0	1	0	1
Tom Green	1	0	0	1
Upton	0	1	4	5
Val Verde	1	0	0	1
Ward	7	6	14	27
Winkler	3	1	7	11
Total June	47	42	78	167
Total May	30	38	72	140
Difference	17	4	6	27

East Texas Fields

Summary of Operations

County—	Comp.	Prod.	Abd.	Gas
Anderson	4	395	1	0
Freestone	1	0	1	0
Henderson	1	0	1	0
Run	1	0	1	0
Gregg	173	12,062	4	0
Rusk	124	6,756	1	1
Smith	19	1,060	0	0
Leon	1	0	0	1
Limestone	1	0	1	0
Navarro	1	0	1	0
Nacogdoches	1	0	1	0
Upshur	25	1,370	0	0
Van Zandt	5	535	0	0
Total June	357	22,179	12	2
Total May	328	16,523	12	0
Difference	29	5,656	0	2

Summary of Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl.
Anderson	5	1	5	11
Cherokee	2	0	2	4
Fannin	0	0	1	1
Freestone	3	1	0	4
Gregg	13	12	121	146
Henderson	1	0	1	2
Hunt	1	0	0	1
Hopkins	1	0	0	1
Kaufman	0	1	0	1
Lamar	0	1	0	1
Morris	0	1	0	1
Nacogdoches	1	1	0	2
Navarro	1	1	2	4
Rains	0	0	1	1
Rusk	22	13	87	122
Smith	6	4	15	25
Upshur	5	3	27	35
Van Zandt	2	6	4	12
Total June	63	45	266	374
Total May	111	44	296	451
Difference	48	1	30	77

Panhandle Fields

Summary of Operations

County—	Comp.	Prod.	Abd.	Gas
Carson	2	90	0	1
Collingsworth	1	0	1	0
Gray	11	3,948	0	1
Hutchinson	6	1,074	0	0
Wheeler	13	2,415	2	2
Total June	33	7,527	3	4
Total May	27	10,327	1	5
Difference	6	2,800	2	1

Summary of Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl.
Carson	5	4	7	16
Childress	0	1	1	2
Dallam	0	0	1	1
Gray	15	8	43	66
Hemphill	0	1	0	1
Hutchinson	5	8	12	28
Moore	1	2	3	6
Roberts	0	1	0	1
Wheeler	15	7	28	50
Total June	44	32	95	171
Total May	50	22	96	168
Difference	6	10	1	3

North Texas

Summary of Operations

County—	Comp.	Prod.	Abd.	Gas
Archer	118	14,603	31	0
Brown	5	50	4	0
Callahan	4	0	4	0
Eastland	2	40	0	0
Cooke	2	20	1	0
Denton	1	0	1	0
Foard	1	2,000	0	0
Jack	14	125	7	0
Montague	5	63	2	0
Shackelford	17	438	8	0
Throckmorton	1	0	1	0
Wichita	13	300	9	0
Wilbarger	10	1,293	2	0
Young	21	231	11	0
Total June	214	19,163	81	0
Total May	252	23,110	106	9
Difference	38	3,947	25	9

Summary of Wells Drilling

County—	Rigs	S.D.	Drg.	Ttl.
Archer	30	20	66	116
Baylor	1	1	0	2
Brown	3	1	3	7
Callahan	4	2	6	12
Clay	1	0	1	2
Coleman	3	1	4	8
Comanche	0	2	2	4
Cooke	3	2	1	6
Denton	0	1	0	1
Eastland	1	2	2	5
Foard	2	0	0	2
Jack	2	3	5	10
Montague	3	3	4	9
Palo Pinto	1	2	2	5
Parker	1	0	0	1
Shackelford	7	3	14	24
Stephens	1	2	2	5
Throckmorton	0	2	0	2
Wichita	4	2	6	12
Wilbarger	8	5	14	27
Young	7	6	14	27
Total June	81	60	146	287
Total May	95	52	184	331
Difference	14	8	38	44

Southwest Texas Fields

Field—	Comp.	Prod.	Abd.	Gas	Rigs	Dlg.	Ttl.
Agua Dulce	2	300	0	0	0	3	3
Cedar Cr. Pool	1	15	0	0	0	0	0
Cuevitas Pool	1	0	0	1	0	2	2
Driscoll Pool	0	0	0	0	0	1	1
Eagle Hill Pool	2	0	1	1	0	0	0
Govt. Wells	28	9,840	1	0	1	7	8
Jacob Pool	2	30	1	0	1	5	6
Jennings	3	60	1	1	0	1	1
Laurel	0	0	0	0	0	1	1
Los Olmos	3	0	0	3	0	0	0
Lucas	1	0	0	1	0	0	0
Moca Pool	1	0	1	0	0	0	0
North Dale	0	0	0	0	0	1	1
North Pettus	2	709	0	0	2	8	10
Saxet Pool	1	250	0	0	0	0	0
Slick	1	0	1	0	0	0	0
West Cole	2	134	0	0	0	1	1
Miscellaneous	48	247	42	3	24	95	119
To.al June	98	11,485	48	10	28	125	153
Total May	115	24,232	53	9	26	127	153
Difference	17	12,747	5	1	2	2	0

Gulf Coast Fields

TEXAS

Field—	Comp.	Prod.	Abd.	Gas	Rigs	Dlg.	Ttl.
Arriola	0	0	0	0	0	2	2
Barbers Hill	3	1,776	0	0	0	16	16
Batson	0	0	0	0	0	1	1
Big Creek	2	415	0	0	0	0	0
Buckeye	0	0	0	0	1	1	2
Clay Creek	0	0	0	0	0	2	2
Cleveland	0	0	0	0	0	2	2
Coletto Creek	0	0	0	0	0	0	0
Conroe	13	18,887	0	0	2	12	14
Damon Mound	0	0	0	0	0	5	5
Danbury	0	0	0	0	1	3	4
Esperson	1	160	0	0	0	3	3
Goose Creek	8	675	5	0	2	5	7
Greta	11	3,284	0	1	0	17	17
Hankamer	1	0	1	0	0	2	2
High Island	2	195	0	0	0	6	6
Hull	8	8,032	2	0	0	6	6
Rumble	0	0	0	0	0	3	3
Liberty	0	0	0	0	0	1	1
Livingston	5	1,332	3	0	0	3	3
Louise	1	395	0	0	0	3	3
Manvel	5	561	3	0	4	2	6
McFaddin Dst.	0	0	0	0	0	2	2
Markham	0	0	0	0	3	1	4
Mykawa	0	0	0	0	0	0	0
O'Connor	2	0	1	1	0	0	0
Orchard	1	1,102	0	0	0	1	1
Pierce Junc.	1	0	1	0	0	3	3
Pledger	0	0	0	0	0	1	1
Port Neches	0	0	0	0	0	2	2
Raccoon Bend	2	171	1	0	0	3	3
Saratoga	2	40	1	0	0	3	3
Sour Lake	0	0	0	0	0	5	5
Stratton Ridge	0	0	0	0	0	1	1
Sugar Land	0	0	0	0	0	0	0
Thompson	2	2,760	0	0	0	3	3
Tomball	8	1,280	3	2	3	9	12
W. Columbia	0	0	0	0	0	2	2
Miscellaneous	22	168	21	0	14	52	66
Total June	100	36,234	43	4	30	182	212
To.al May	140	65,844	49	3	29	152	181
Difference	40	29,610	6	1	1	30	31

LOUISIANA

Field—	Comp.	Prod.	Abd.	Gas	Rigs	Dlg.	Ttl.
Bay St. Elaine	1	0	1	0	1	0	1
Black Bayou	0	0	0	0	1	1	2
Bosco	0	0	0	0	0	7	7
Caillou Island	0	0	0	0	0	2	2
Cameron Mead.	0	0	0	0	1	3	4
Choctaw	0	0	0	0	0	1	1
Dog Lake	1	0	1	0	0	0	0
Edgerly	1	0	1	0	0	0	0
Four Island	0	0	0	0	1	0	1
Garden Island	0	0	0	0	0	1	1
Gueydan	0	0	0	0	0	1	1
Hackberry	0	0	0	0	3	7	10
Iowa	5	4,206	0	0	0	8	8
Jennings	1	325	0	0	1	0	1
Lake Barre	1	0	1	0	1	4	5
Lake Pelto	0	0	0	0	0	2	2
Leesville	8	9,920	0	0	5	7	12
Lockport	0	0	0	0	1	4	5
Port Barre	0	0	0	0	0	2	2
Roanoke	0	0	0	0	1	2	3
Sorrento	0	0	0	0	0	1	1
Starks	0	0	0	0	0	1	1
Sulphur	2	0	2	0	0	7	7
Sweet Lake	0	0	0	0	0	1	1
Vinton	2	240	1	0	0	3	3
White Castle	1	0	1	0	1	0	1
Miscellaneous	6	3,353	3	0	4	23	27
Total June	29	18,044	11	0	21	88	109
Total May	25	17,007	8	0	20	96	116
Difference	4	1,037	3	0	1	8	7

GULF COAST TOTALS

Total June	129	54,278	54	4	51	270	321
Total May	165	82,851	57	3	49	248	297
Difference	36	28,573	3	1	2	22	24

East Texas Gas Fields

EAST TEXAS (BORDER COUNTIES)

Summary of Field Operations

	Comp.	Prod.	Dry Gas	Rgs.	Dlg.	Ttl.
Cass	0	0	0	0	2	2
Harrison	0	0	0	0	2	2
Marion	0	0	0	0	3	3
Panola	1	0	1	0	3	3
Shelby	1	0	1	0	0	3	3
Ttl. June	2	0	2	0	1	11	12
Ttl. May	0	0	0	0	3	12	15
Difference	2	0	2	0	2	1	3

Louisiana Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	*Rigs	Drg.	Ttl.
Avoyelles	0	0	0	0	0	1	1
Bossier	0	0	0	0	2	9	11
Caddo	8	0	2	6	1	13	14
Caldwell	0	0	0	0	0	2	2
Claiborne	1	0	0	1	0	0	0
Concordia	0	0	0	0	0	1	1
DeSoto	2	75	1	0	1	11	12
Franklin	0	0	0	0	1	0	1
Grant	0	0	0	0	0	2	2
Lincoln	0	0	0	0	0	1	1
Morehouse	2	0	0	2	0	1	1
Natchitoches	0	0	0	0	1	5	6
Ouachita	3	0	0	3	3	3	6
Rapides	0	0	0	0	4	2	6
Red River	0	0	0	0	1	4	5
Richland	0	0	0	0	0	1	1
Sabine	17	947	7	1	14	34	48
Vernon	0	0	0	0	1	1	2
Webster	0	0	0	0	2	0	2
Winn	0	0	0	0	0	1	1
Ttl. June	33	1,022	10	13	32	91	123
Ttl. May	31	1,445	17	1	45	92	137
Difference	2	423	7	12	13	1	14

*Gas production: Caddo, 120,500,000 feet; Claiborne, 1,300,000 feet; Morehouse, 22,900,000 feet; Ouachita, 8,300,000 feet; Sabine, 1,000,000 feet; Union, 16,250,000 feet; total, 165,250,000 feet.

Arkansas Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Arkansas	0	0	0	0	0	1	1
Columbia	0	0	0	0	0	1	1
Conway	0	0	0	0	0	1	1
Hempstead	0	0	0	0	1	1	2
Jefferson	0	0	0	0	1	1	2
Lafayette	1	0	1	0	2	2	4
Lee	0	0	0	0	0	1	1
Little River	0	0	0	0	0	2	2
Lonoke	0	0	0	0	0	1	1
Miller	4	655	1	0	2	11	13
Ouachita	1	20	0	0	0	4	4
Poinsett	0	0	0	0	0	1	1
St. Francis	0	0	0	0	1	0	1
Union	3	85	2	0	1	8	9
Yell	0	0	0	0	0	1	1
Ttl. June	9	760	4	0	8	36	44
Ttl. May	1	0	1	0	14	34	48
Difference	8	760	3	0	6	2	4

Mississippi Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Amite	0	0	0	0	0	1	1
Clarke	0	0	0	0	0	1	1
Greene	0	0	0	0	0	1	1
Hinds	2	0	1	1	1	1	2
Issaquena	0	0	0	0	0	1	1
Jones	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Newton	0	0	0	0	0	1	1
Rankin	0	0	0	0	0	1	1
Scott	1	0	1	0	0	0	0
Simpson	0	0	0	0	1	1	2
Warren	0	0	0	0	0	1	1
Wilkinson	1	0	1	0	0	0	0
Ttl. June	4	0	3	1	2	13	15
Ttl. May	3	0	3	0	4	14	18
Difference	1	0	0	1	2	1	3

Alabama Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Baldwin	1	0	1	0	0	0	0
Clarke	0	0	0	0	0	1	1
Houston	0	0	0	0	0	1	1
Lamar	0	0	0	0	0	1	1
Ttl. June	1	0	1	0	0	3	3
Ttl. May	0	0	0	0	0	1	1
Difference	1	0	1	0	0	2	2

Rocky Mountain Area

NEW MEXICO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Eddy	2	0	2	0	3	7	10
Lea	5	7,605	0	0	7	15	22
McKinley	0	0	0	0	1	5	6
San Juan	2	43	0	0	2	15	17
San Miguel	0	0	0	0	0	3	3
Santa Fe	0	0	0	0	0	3	3
Torrance	1	0	1	0	0	1	1
Valencia	0	0	0	0	0	3	3
Miscellaneous	0	0	0	0	1	8	9
Total June	10	7,648	3	0	14	60	74
Total May	10	14,134	0	1	9	59	68
Difference	0	6,486	3	1	5	1	6

WYOMING

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Big Horn	1	0	1	0	1	5	6
Carbon	1	0	1	0	1	4	5
Converse	0	0	0	0	0	6	6
Crook	0	0	0	0	0	7	7
Fremont	0	0	0	0	0	6	6
Hot Springs	0	0	0	0	0	2	2
Lincoln	1	25	0	0	0	2	2
Natrona	0	0	0	0	3	5	8
Niobrara	0	0	0	0	0	2	2
Park	0	0	0	0	1	3	4
Sweetwater	1	0	0	1	0	1	1
Sublet	0	0	0	0	0	4	4
Uinta	0	0	0	0	0	6	6
Washakie	0	0	0	0	2	1	3
Weston	3	45	1	0	4	6	10
Miscellaneous	0	0	0	0	0	7	7
Total June	7	70	3	1	13	67	80
Total May	10	1,260	2	1	14	66	80
Difference	3	1,190	1	0	1	1	0

COLORADO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Elbert	0	0	0	0	0	3	3
Grand	0	0	0	0	0	2	2
Jackson	0	0	0	0	1	1	2
Larimer	0	0	0	0	0	4	4
La Plata	1	0	1	0	1	0	1
Moffat	1	0	0	1	1	3	4
Park	0	0	0	0	1	1	2
Routt	0	0	0	0	1	2	3
Weld	0	0	0	0	0	1	1
Miscellaneous	0	0	0	0	0	15	15
Total June	2	0	1	1	5	32	37
Total May	2	5,000	1	0	6	34	40
Difference	0	5,000	0	1	1	2	3

MONTANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Carbon	0	0	0	0	0	5	5
Fergus	0	0	0	0	0	3	3
Glacier	12	852	0	1	11	26	37
Liberty	2	0	1	1	0	2	2
Petroleum	0	0	0	0	0	2	2
Teton	0	0	0	0	1	2	3
Toole	4	6	1	2	0	7	7
Miscellaneous	0	0	0	0	1	10	11
Total June	18	858	2	4	13	57	70
Total May	9	644	2	0	10	52	62
Difference	9	214	0	4	3	5	8

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Total June	0	0	0	0	1	14	15
Total May	0	0	0	0	1	14	15
Difference	0	0	0	0	0	0	0

Eastern Fields

Summary of Completed Work

Field—	Comp.	Prod.	Dry	Gas
Bradford	122	221	0	0
Allegany	7	7	0	0
Venango-Clarion	2	1	0	2
Butler-Armstrong	2	6	0	0
S.W. Pennsylvania	12	356	1	4
Southeast Ohio	29	534	3	2
West Virginia	49	950	4	30
Total June	223	2,075	8	38
Total May	209	703	14	24
Difference	14	1,372	6	14

Summary of Work Under Way

Field—	Rigs	Drlg.	Ttl.
Bradford	27	80	107
Allegany	0	7	7
Venango-Clarion	2	8	10
Butler-Armstrong	1	7	8
Southwest Pennsylvania	6	17	23
Southeast Ohio	12	29	41
West Virginia	37	65	102
Total June	85	213	298
Total May	77	219	296
Difference	8	6	2

Michigan Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Midland	25	21,490	0	0	17	57	74
Isabella	8	72	2	4	23	22	45
Oceana	2	0	2	0	4	15	19
Lake	0	0	0	0	0	2	2
Iosco	0	0	0	0	1	0	1
Gratiot	0	0	0	0	2	2	4
Clare	0	0	0	0	4	1	5
St. Clair	0	0	0	0	2	0	2
Cass	0	0	0	0	3	1	4
Kent	0	0	0	0	1	2	3
Montmorency	0	0	0	0	1	1	2
Sanilac	0	0	0	0	3	0	3
Saginaw	0	0	0	0	4	1	5
Newyago	0	0	0	0	0	2	2
Shiawassee	0	0	0	0	1	2	3
Allegan	1	0	1	0	2	1	3
Livingston	0	0	0	0	1	1	2
Alpena	0	0	0	0	1	0	1
Cheboygan	0	0	0	0	0	1	1
Oakland	0	0	0	0	0	1	1
Moroe	0	0	0	0	0	1	1
Macomb	0	0	0	0	1	1	2
Gennessee	0	0	0	0	2	0	2
Mecosta	0	0	0	0	4	3	7
Montcalm	0	0	0	0	4	9	13
Muskegon	3	15	1	1	4	6	10
Ogemaw	3	100	1	0	7	9	16
Gladwin	0	0	0	0	0	1	1
Eaton	0	0	0	0	0	1	1
Hillsdale	0	0	0	0	2	0	2
LaPeer	1	280	0	0	1	1	2
Arenac	1	0	0	0	1	0	1
Total June	44	21,957	7	5	99	144	243
Total May	46	24,105	11	5	117	162	279
Difference	2	2,148	4	0	18	18	36

Lima Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	0	0	0	0	0	3	3
Hancock	3	70	2	0	0	2	2
Allen	2	60	0	0	1	3	4
Auglaize	0	0	0	0	0	2	2
Van Wert	1	30	0	0	0	2	2
Mercer	0	0	0	0	0	2	2
Shelby	1	0	1	0	0	0	0
Sandusky	4	0	3	1	0	0	0
Ottawa	0	0	0	0	0	2	2
Lucas	0	0	0	0	0	1	1
Hardin	0	0	0	0	0	3	3
Seneca	1	1	0	0	0	3	3
Wyandot	5	3	3	1	2	6	8
Total June	17	164	9	2	3	29	32
Total May	7	114	1	1	3	26	28
Difference	10	50	8	1	0	4	4

Central Ohio Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashland	3	0	2	1	6	5	11
Huron	0	0	0	0	0	1	1
Medina	8	131	0	0	2	6	8
Lorain	4	35	2	1	1	6	7
Holmes	0	0	0	0	4	3	7
Richland	0	0	0	0	0	2	2
Wayne	2	0	1	1	0	2	2
Summitt	0	0	0	0	1	1	2
Fairfield	1	0	1	1	1	1	2
Marion	0	0	0	0	0	0	0
Knox	3	0	1	1	2	7	9
Coshocton	2	191	0	0	2	5	7
Licking	7	147	3	1	0	7	7
Muskingum	2	64	0	0	0	9	9
Athens	2	4	0	1	4	12	16
Harrison	0	0	0	0	0	1	1
Tuscarawas	1	0	0	1	0	7	7
Stark	9	0	0	9	2	21	23
Belmont	1	0	1	0	0	3	3
Guernsey	11	63	2	7	2	10	12
Crawford	0	0	0	0	0	1	1
Gallia	0	0	0	0	0	4	4
Scioto	0	0	0	0	0	1	1
Pike	0	0	0	0	0	2	2
Carroll	0	0	0	0	0	3	3
Vinton	3	1	1	1	0	1	1
Lawrence	0	0	0	0	0	6	6
Geagua	1	0	1	0	0	0	0
Meigs	6	0	1	5	1	8	9
Total June	65	626	14	30	28	135	163
Total May	50	332	13	22	42	125	167
Difference	15	294	1	8	14	10	4

Indiana Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Gibson	6	245	1	0	1	3	4
Sullivan	0	0	0	0	0	4	4
Pike	3	110	1	0	0	2	2
Daviess	0	0	0	0	0	2	2
Warrick	0	0	0	0	0	2	2
St. Joe	0	0	0	0	0	1	1
Spencer	1	0	1	0	0	3	3
Greene	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	1	1
Porter	0	0	0	0	0	2	2
Henry	0	0	0	0	0	1	1
Martin	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Hancock	0	0	0	0	0	2	2
Lawrence	0	0	0	0	0	1	1
Knox	2	0	2	0	0	0	0
Posey	1	25	0	0	0	0	0
Monroe	1	0	1	0	0	1	1
Perry	4	0	3	1	0	1	1
Vanderburg	3	15	2	0	0	0	0
Total June	21	395	11	1	1	38	39
Total May	13	280	6	2	1	36	37
Difference	8	115	5	1	0	2	2

Illinois Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	0	0	0	0	0	4	4
Crawford	0	0	0	0	0	1	1
Marion	0	0	0	0	0	1	1
Boone	0	0	0	0	1	0	1
Jefferson	0	0	0	0	0	1	1
Clinton	1	0	1	0	0	1	1
Madison	0	0	0	0	0	1	1
Macoupin	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Total June	1	0	1	0	1	11	12
Total May	3	5	2	0	2	11	13
Difference	2	5	1	0	1	0	1

Kentucky Fields

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ohio	9	84	3	0	2	15	17
Daviess	0	0	0	0	0	15	15
Hancock	6	140	2	1	0	2	2
Muhlenberg	0	0	0	0	0	3	3
McLean	0	0	0	0	0	5	5
Allen	2	0	2	0	0	0	0
Barren	1	5	0	0	0	0	0
Total June	18	229	7	1	2	40	42
Total May	14	300	5	1	3	39	42
Difference	4	71	2	0	1	1	0

Serving the Oil Industry

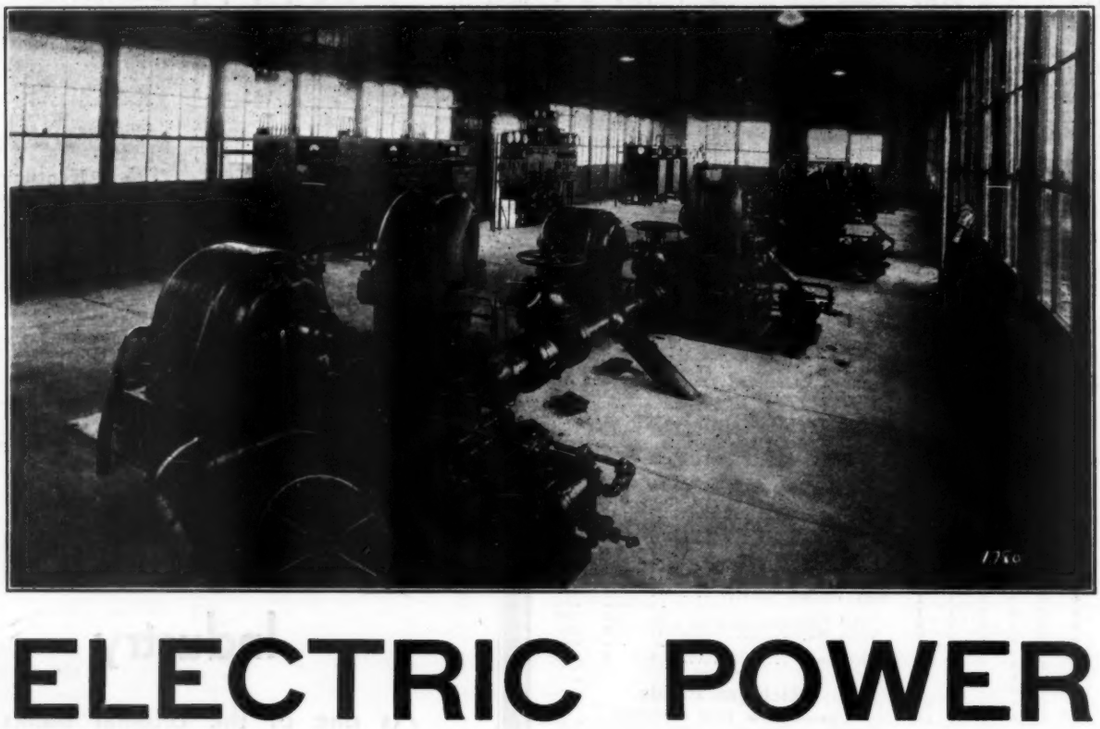
As one of the original banks of the Southwest, The Fort Worth National Bank has maintained a close relationship with the industries of this section for sixty-one years—in which it has been actively identified with the oil industry.

Business executives are cordially invited to discuss their banking requirements with us.

The FORT WORTH NATIONAL Bank

Fort Worth, Texas

READ HOW THIS PUMPING STATION SAVES MONEY THROUGH THE USE OF



ELECTRIC POWER

This pumping station was equipped for about 1/3 or 1/4 of what it would have cost had any other form of power been used.

It is saving its operators money every day because its power costs and fixed charges are tapering off with the constantly decreasing capacity of the field. These reduced costs are possible only where purchased electric power is used.

LET US SUPPLY YOU WITH INFORMATION

Our engineers will gladly give you complete information on the use of electric power either for pumping, drilling, lifting, pipe lines, or refining. There's no obligation on your part.

Then, too, the percentage of salvage at the end of the life of the field will be greater than if any other form of power had been used. Records show that a real saving can be made by using electric power in your pumping stations.

OKLAHOMA GAS AND ELECTRIC COMPANY

Commercial Department

OKLAHOMA CITY OKLAHOMA

Polo Pool Discovery Flows 1,447 Bbls. Per Day; Oklahoma City Potentials Are Falling Fast

By JAMES McINTYRE

The wildcat well that opened the Polo Pool in Noble County, Oklahoma, was given a 24-hour test ending Saturday morning at 7 o'clock and flowed 1,477 bbls. from Wilcox sand at a total depth of 4,895 feet. It is the Texas Co., Stanolind Oil & Gas Co. and Darby Petroleum Co.'s No. 1 Voss, SW NE SE Section 28-22-2w. It has not been completed.

A 65 per cent reduction in the rated potentials of the Wilcox sand zone in the Oklahoma City Pool is recommended by W. J. Armstrong, state proration umpire to the Oklahoma Corporation Commission. The flat reduction would affect only those operators who do not wish to take the regular open flow tests. An attorney for certain of the individual operators in the field recommended that the reduction in potential be made only 25 per cent and that the minimum well allowable be increased from 100 bbls. to 200 bbls. per day.

Umpire Armstrong testified before the commission that a score of key wells in the field had been tested and that the average decline of these wells exceeded 63 per cent.

R. L. McWilliams of the Carter Oil Co. testified that 36 of the Carter's 60 wells in the field had shown a 65 per cent potential decline in June. He said the fairest way to establish potential was by open flow tests, adding that if the decline was fixed at 65 per cent 75 per cent of the operators will take the open flow test. An attorney for independent operators testified that against the heavy costs of drilling and operating in Oklahoma City a 100-bbl. minimum production per day would possibly pay expenses but would not result in a profit to them.

Daily Average Production

Estimated daily average production in the week ending July 21 and the preceding week was as follows:

Pool—	Barrels— July 21	July 14
Allen	8,105	8,190
Blackwell district	5,000	5,000
Bristow-Slick	10,400	10,500
Cushing-Shamrock	14,600	14,500
Chandler district	7,000	6,600
Davenport	750	750
Healdton	9,150	9,180
Hewitt	4,950	4,950
Burbank	9,300	9,300
South Burbank	6,400	6,100
Balance of Osage	30,000	27,000
Lucien	5,480	5,290
Crescent	4,025	4,325
Marshall-Lovell	1,250	1,310
Bowlegs	12,115	12,085
Carr City	6,720	6,375
Earlsboro	9,410	9,925
East Earlsboro	10,470	11,655
South Earlsboro	1,130	1,355
Little River	15,400	16,060
East Little River	905	950
Seminole	12,275	12,570
East Seminole	1,285	1,470
Searight	2,675	2,560
Maud	1,175	1,190
Mission	3,090	4,060
St. Louis-Pearson	27,830	26,980
Cromwell	4,775	4,800
Papoose	1,250	1,300
Oklahoma City	190,135	210,030
Asher-West Asher	1,820	1,875
Tatums	7,045	6,500
Sholem-Alechem	4,475	4,460
Duncan	4,700	4,610
Tonkawa-Garber-Thomas	6,700	6,680
Fish	3,035	4,520
Konawa	2,310	2,080
Gray	2,195	2,100
Graham	3,800	3,800
Holdenville	3,225	3,485
Wewoka	4,450	4,400
Yale-Jennings	5,100	5,050
Other pools	66,759	63,580
Total	535,675	551,060

Deepest Well Makes Flow

Oklahoma's deepest well, and the world's deepest producing well, Denver Producing & Refining Co.'s No. 1 Adah Noe, NW SW SW Section 34-10-10w, Caddo County, made a 150-bbl. flow by heads from sand at 9,900 to 10,000 feet, but the tools are still fast in the hole which is at a total depth of 11,230 feet.

Nichlos Finds Oil

Twelve years after he opened the Chickasha gas field on the Farwell farm, John B. Nichlos finds oil on the same farm. In a test in the NE NE SE Section 26-5n-8w, Grady County, an oil and gas showing has been found at 2,932-40 feet. The original gas pay was found 1,271 feet. Acid was used on the deep pay and the well flowed 75 bbls. of the oil load. Later live oil rose in the hole. A liner was being set and the well will be tubed and then tested.

Osage County

Empire Oil & Refining Co. and others' wildcat, SE NE Section 3-25-3, Osage County, passed through what was thought to be Bartlesville sand at 3,356-68 feet which was broken and dry, and were drilling ahead at 3,433 feet in shale.

Carter Oil Co. and Empire Oil & Refining Co. completed No. 3 Higdon, NW NE Section 3-25-6, north end of the South Burbank Field, for 1,527 bbls. in 24 hours. Burbank sand was had at 2,757-2,814 feet, total depth.

Champlin Refining Co.'s No. 6 Maker, NW NE NE Section 15-25-6, produced 104 bbls. oil from the chat found at 2,918-41 feet, total depth. This is a new producing horizon in this pool and it is to be shot.

Champlin Refining Co.'s No. 2 Terrill, NE NW SE Section 15-25-6, which had no true Burbank sand, had a hole full of water from the Hominy sand found at 3,233-56 feet, total depth. It was plugged back to the base of the chat at 2,911 feet and was being swabbed down to test that horizon.

A. H. Kashishke's No. 6 Carroll, NE SE SW Section 15-25-6, was good for 210 bbls. of oil flowing by heads from Burbank sand at 2,712-60 feet. Pay was topped at 2,735 feet. It was a completion.

Phillips Petroleum Co.'s No. 6 Bean, SW NW Section 15-25-6, was completed for 188 bbls. in 24 hours after a 10-quart shot was given sand at 2,852-60 feet. Burbank sand was at 2,828-60 feet, total depth, and pay was found at 2,838 feet.

Same company's No. 7 Bean, NW cor. Section 15-25-6, topped the Burbank sand at 2,802 feet, had oil showing at 2,-805 feet and was shut down cementing the 6-inch casing. Total depth was 2,-834 feet.

H. F. Worley's No. 1, SE NE SW Section 16-25-6, pumped 28 bbls. of oil and 11 bbls. of water in 24 hours. This well which apparently discloses a new trend to the South Burbank development, had the Burbank sand at 2,815-36 feet, total depth, and was plugged back on account of water showing to 2,833½ feet.

In the Naval Reserve Pool, A. H. Kashishke has completed his No. 11, NW NE NE Section 16-24-7, for 90 bbls. on the swab. Bartlesville sand was found at 2,560-621 feet, total depth, and was given a 100-quart shot of nitro.

Norbla Oil Co.'s No. 1, NW SE Section 31-24-7, wildcat test about 2 miles southwest of the Naval Reserve Pool, found dry Bartlesville sand at 2,687-2,788 feet and was drilling ahead at 2,820 feet in lime.

F. A. Haver's No. 8, NW SE SE SW Section 16-23-11, was dry and abandoned after a 40-quart shot failed to make the Bartlesville sand respond at 1,686-95 feet. Total depth was 1,832 feet. Bartlesville sand was had at 1,686-1,780 feet.

Central Petroleum Co.'s No. 14, CW half E half SW Section 16-22-9, had dry Siliceous lime at 2,645-2,725 feet, total depth. It plugged back to Burgess sand at 2,306-86 feet, which yielded 20 bbls. oil on pump, and was completed.

Carl I. Matthews' No. 3, NE NW Section 26-21-9, was dry and abandoned in the Layton sand at 1,012-35 feet, total depth.

Sand Springs Home Interests' No. 2, SW NE SE Section 2-20-10, was completed for 5,000,000 feet of gas in sand at 1,987-2,007 feet, total depth.

New operations starting up over the week in Osage County include the following: John P. Stewart's No. 1-A, SW NE NE SW Section 34-26-9, location; A. H. Kasishke's No. 7 Carroll, SE SW Section 15-25-6, location; Texas Co.'s No. 9, NW SE NW Section 30-25-8, rigging up; Peters Petroleum Co. and Sinclair Prairie Oil & Gas Co.'s No. 7, SW NW NE Section 24-24-7, location, and Texas Co.'s No. 4, SW NE SW, old well drilling deeper, Section 17-21-10, old total depth 2,070 feet; Mississippi lime 2,230 feet, drilling 2,328 feet.

Northwestern Fields

Carter Oil Co.'s No. 1 Cline, Kay County wildcat test about 2½ miles northwest of the old Burbank Pool, was drilling at 1,567 feet. This well should be at an interesting stage in another two or three weeks.

In the Tonkawa Pool, the Texas Co.'s No. 2 Smith had water in the Wilcox sand at 4,320-4,402 feet, total depth, and was being plugged back to test a show in the chat.

Texas Co., Stanolind Oil & Gas Co. and Darby Petroleum Corp.'s No. 1 Voss, SW NE SE Section 28-22-2w, Noble County wildcat discovery, flowed 1,477 bbls. of oil in 24 hours ending 7 a. m. Saturday, July 21. Total depth was 4,-895 feet in Wilcox sand. Location for these companies' No. 2 well has been made in the NW NE SE of same section. A quarter mile north Sinclair Prairie Oil & Gas Co. is rigging up rotary for its No. 1 Smith, SW SE NE Section 28-22-2w.

Continental Oil Co. and others' No. 1 Bennett, SE NW Section 19-20-1w, was making preparations to plug back to 5,-115 feet, at which depth water first showed up in this test. Wilcox sand was topped at 5,106 feet and total depth is 5,232 feet in a white sand.

The Lucien Pool registered two completions over the week. Carter Oil Co.'s No. 3 Weber, C NE SW Section 20-20-2w, flowed 2,350 bbls. on a 12-hour potential test and was completed. First Wilcox sand at 4,975-5,011 feet, produced 450 bbls. of oil on flow, the bulk of production coming from the second Wilcox sand at 5,075-5,165 feet, total depth.

Gypsy Oil Co. completed No. 2 Verna, C SE SE Section 29-20-2w, gauging 895 bbls. on flow in 12 hours. This well had both first and second Wilcox sands, the first at 4,948-5,012 feet and the second at 5,067-5,137 feet, total depth. Its No. 1 Verna, C NE SE same section, had first Wilcox sand at 4,945-5,006 feet, which produced 40 bbls. per hour by heads on flow. The second Wilcox sand at 5,069-5,123 feet, yielded 735 bbls. of oil and sufficient gas pressure to blow the tools up the hole, which resulted in a fishing job.

Proving once more that the discovery well is not always on the best lease, Lucien Consolidated's No. 3 Wolff, C SW NW Section 17-20-2w on the discovery tract, is having difficulty in reaching the standard established for wells in the Lucien Pool. Last gauges available were: swabbed 68 bbls. in 24 hours, swabbed 142 bbls. in 8 hours off top of water. Sand was had at 5,230-5,344 feet, second Wilcox.

Carter Oil Co. was preparing to drill into the first Wilcox sand with cable tools in its No. 2 Henn, C SW SE Section 29-20-2w. Sand was topped at 5,024 feet.

Sinclair Prairie's No. 2 Bohn, C SW NE Section 29-20-2w, had first Wilcox sand at 5,001-40 feet, which flowed and swabbed 585 bbls. in 12 hours. Second

Wildcat Operations in Oklahoma

Week Ending July 21

NORTHERN OKLAHOMA

ALFALFA COUNTY

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.
T.D. 6,460 ft.; lost tools and S.D.

BECKHAM COUNTY

Price and Watchorn O. & G. Co.'s No. 1 Hoard, NE SW Sec. 17-8-26w.
Fishing 765 ft.

CADDO COUNTY

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
T.D. 11,320 ft.; fsg. drill pipe.

CLEVELAND COUNTY

Phillips Pet. Co. et al's No. 1 Baker, C SE NW Sec. 11-9-2w.
Drlg. 6,930 ft. in Hunton lime; base Pennsylvanian 6,714 ft.

COAL COUNTY

Moore & Deaner's No. 1 Edward, NW NE SE Sec. 27-2-8.
S.D. 4,970 ft.

GARFIELD COUNTY

Ross Cummings et al's No. 1 Gage, SE NW Sec. 27-22-3w.
Spudded and S.D.

GRADY COUNTY

Mid-Western Oil Co., Inc.'s No. 1 Carter, NW NE SE Sec. 32-3-7w.
Sand 1,550-60 ft.; show gas; sand 1,565-75 ft., show gas; coring at 1,670 ft.

GRANT COUNTY

W. Earl Witt et al's No. 1 Patton, SW SE Sec. 19-29-3w.
Cellar and pits.

HARPER COUNTY

Sinclair Prairie Oil Co.'s No. 1 Neff, NW SE Sec. 21-26-24w.
T.D. 265 ft.; S.D. for water.

HUGHES COUNTY

Dickison et al's No. 1 Webster, NW NE Sec. 22-10-10.
Rig on ground.

J. B. Hill's No. 1-A Perkins, C W½ SW SW Sec. 7-5-9.
T.D. 1,075 ft.; S.D.

Olympic Oil Co.'s No. 1-A McClassen, SE NW NW Sec. 12-9-8.
Cromwell sand 3,433 ft.; T.D. 3,478 ft.; 40,000,000 ft. gas, flowed 134 bbls. 7 hrs., est. 2 bbls. water per hr.

Olympic Oil Co.'s No. 1 McClassen, SE NW NW Sec. 12-9-8.
T.D. 600 ft.; lost tools; S.D.

Smith et al's No. 1 Farmer, SE NW Sec. 32-5-9.
Drlg. 600 ft.

Turner et al's No. 1 Williams, SW cor. Section 35-7-10.
Rig on ground.

JACKSON COUNTY

Ben Russell et al's No. 1 Unknown, NW SE Section 30-1-22w.
Rig.

KAY COUNTY

Carter Oil Co.'s No. 1 Cline, SE SW SE Sec. 16-28-5.
Drlg. 1,567 ft.

KINGFISHER COUNTY

Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w.
T.D. 5,111 ft.; S.D.

KIOWA COUNTY

Bailey & Johnson's No. 1-A Potts, CEL NW NW SW Sec. 31-7-14w.
Drlg. 330 ft.

LEFLORE COUNTY

East Okla. O. & G. Co.'s No. 1 Metcalf, SW cor. Sec. 2-4-26.
Drlg. 1,575 ft.

Murdock et al's No. 1 fee, SW NE SW Sec. 15-5-25e.
T.D. 2,425 ft.; drlg. by tools.

(Continued on Page 145)

Wilcox sand was topped at 5,115 feet and at 21 feet in flowed 393 bbls. in 24 hours. It was drilling ahead at 5,136 feet.

First reports of the northwestern part of the State included: Stanolind Oil & Gas Co. et al's No. 2 Voss, NW NE SE Section 28-22-2w, location. (Incidentally the Stanolind Oil & Gas Co. takes over the operation of the Texas Co. et al's No. 1 Voss upon completion of the well. Shell Petroleum Corp.'s No. 3 Kolb, C SE SW Section 28-20-2w, Lucien Field, location.

Logan County

Eason Oil Co.'s No. 1 Katscher No. 2, C NW SW Section 34-17-4w, Crescent Pool of Logan County, was shot with 40 quarts at 6,224-64 feet and responded with 890 bbls. of oil in six hours. It was not completed. The second Wilcox sand at 6,370-72 feet, total depth, carried water and the well was plugged back to first Wilcox based at 6,270 feet.

Eason Oil Co.'s No. 3 Katscher No. 2, C NW SW SW Section 34-17-4w, based the Pawhuska limestone at 3,170 feet and was drilling ahead at 4,390 feet.

In the Langston Pool, Mid-Continent Petroleum Corp. and others' No. 1 Moss, SW SE Section 11-17-1w, flowed 397 bbls. the first 13 hours and 293 bbls. the next 24 hours from Wilcox sand at 5,104-24 feet. It had not been completed.

W. N. Anthony's No. 1 Fruin-Eckman, SE SW Section 4-16-1e, wildcat test south of the town of Coyle, was shut down at 5,285 feet. in Wilcox sand, waiting for casing. Simpson dolomite was topped at 5,235 feet and a show of oil was had at 5,253-59 feet.

Creek County

Bert Swift's No. 1 Martin, CNL NW NE Section 18-18-10, Creek County, was a failure in the Mississippi lime and was being plugged back from 2,787 feet, total depth, to 2,050 feet, whree it will be shot. Prue sand at 1,932-2,003 feet, carried a show of oil.

The Olive Pool had another Layton sand producer in the Magnolia Petroleum Corp.'s No. 5 Street, SW NE Section 3-17-8, producing 185 bbls. on swab and flow from the Layton sand found at 1,-363-89 feet, total depth. It was completed.

Alma Oil Co. was preparing to shoot its No. 1 May, NW SW Section 7-17-8, which had Bartlesville sand at 2,955-3,014 feet, filling the hole 700 feet with oil.

Beverly Development Co.'s No. 1 Littlehead, SE SW SW Section 9-15-9, found Dutcher sand at 3,016-20 feet, total depth, which had a hole full of water. It was dry and abandoned.

New starts in this area include: C. W. Titus' No. 2 Casey "B," SE NE SW Section 3-17-8, rigging up; Curtis Oil Co.'s No. 1 Helton, C NW SE Section 6-17-10, drilling 250 feet.

Lincoln County

Lincoln County failed to offer any interesting development over the week. Chandler Extension Pool held the spotlight for some time but now the light changes from a bright to a blue. It is rumored that this field is fast going to water. There were no completions over the week but Magnolia Petroleum Co.'s No. 4 Benedict, SE SW NW Section 7-14-4, was shut down with the 7-inch casing cemented at 5,068 feet. Total depth was 5,070 feet, 45 feet in the Viola lime.

Magnolia Petroleum Co.'s No. 5 Wagner, SE NW NE Section 18-14-4, was drilling at 3,700 feet.

The status of Texas Co.'s No. 1 Gassman, SE NE Section 33-14-4, wildcat test south of the Chandler Pool, is slightly changed from last week's report and has those directly interested puzzled as to where production is coming from. This well had a hole full of water in the Wilcox sand at 4,990-5,002 feet, total depth, and was plugged back to 3,800 feet, casing was ripped and it flowed 305 bbls. of oil between the casing and surface pipe. Pretty good authority has it that production is from the Cleveland sand around 3,100 feet.

R. L. Kemp's No. 1 Cook, Wilcox sand discovery about 2 miles west of the old Cushing Field, is in the "less than 100 bbls. a day" class, the last gauge available being 60 bbls. oil and 50 bbls. water on swab. Sand was at 3,157-92 feet, total depth, water showing up at the base. It was plugged back to 3,108 feet in Simpson formation.

Other activity in this spot is at a rather slow pace. Blackwell Oil & Gas Co.'s No. 1 Ladd, SE NE NW Section 23-17-6, topped the Layton sand at 1,623 feet carrying a small show of oil and gas at 1,625-27 feet; water 1,685-95 feet, and was drilling ahead at 2,216 feet.

Oklahoma County

H. E. Rapp and others have recompleted their No. 1 Price, C E half NE SW Section 19-14-3w, Oklahoma County. Second Wilcox sand was topped at 6,684 feet, drilled to 6,748 feet, total depth, in white sand, carried a hole full of water, plugged back to 6,733 feet and flowed 40 bbls. oil with 60 per cent water on artificial lift.

Gypsy Oil Co. and others' No. 1 Grant, C SE NW Section 27-13-4w, wildcat test near Britton, is shut down for orders at 7,477 feet, total depth in dry Wilcox sand.

Near Edmond, Mid-Kansas Oil & Gas Co.'s No. 1 Dahl, SE cor. Section 31-14-3w, is making from 40,000,000 to 70,000,-000 feet of gas from Wilcox sand, total depth being 6,393 feet. Plans are to move in rotary tools ot complete this one which affords plenty of speculative stimulus.

An offset to the above, Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Seuneram, NE cor. Section 6-13-3w, was drilling at 6,408 feet in dolomite, topped at 6,384 feet. A puff of gas was had at 6,397 feet.

In the Oklahoma City Field, Larkin and Warr's No. 1 Farris Rodesney, 650 feet S and 970 feet W of C Section 22-11-3w, was completed for a 4-hour gauge of 126 bbls. natural with 2,750,000 feet of gas. Wilcox sand was at 6,498-6,577 feet, total depth.

Nebo Oil Co.'s No. 3 Little and others' NE SE NW NE Section 27-11-3w, was being cleaned out after a 40-quart shot at 6,556-95 feet. Sand was topped at 6,-540 and total depth is 6,603 feet. This one made 24 bbls. in four hours on swab before shot.

New locations and operations are as follows: Watchorn Oil & Gas Co.'s No. 2 Traders Compress, NE NW SE SE Section 34-12-3w, rig; Travis Petroleum Co.'s No. 1 Lucas, NW NE SW Section 36-12-3w, rig; Banner Production Co.'s No. 6 Benson, NW SW SE NE Section 22-11-3w, rig; Banner Production Co.'s No. 5 Earps, CEL NW NE NE Section 22-11-3w, location.

Tulsa-Okmulgee District

Sam Kuns has abandoned No. 1-B Barnett, SW NW SE Section 13-18-14, Tulsa County, at 1,339 feet, total depth. Sand at 1,309-39 feet had a small show of oil, but a 40-quart shot of nitro got no response.

Turman Oil Co.'s No. 1 Perryman, SE SW SE SW Section 5-17-14, found the Burgess sand at 1,519-24 feet, showing for about 10 bbls. of oil. It is to be shot. Total depth was 1,525 feet.

C. A. Mechling has completed No. 1-A Chissoe, CWL SW NE Section 13-17-14e, for 1,000,000 feet of gas from sand found at 1,154-70 feet, total depth.

Young and Babcock's No. 1-A Lowery, SW NW NW Section 21-16-15, was a dry hole at 1,388 feet, total depth. Sand at 1,350-53 feet carried a small show of oil but failed to produce after a shot of nitro was applied.

Dodson and others abandoned their No. 2-A McKinney, CWL SW NE Section 16-15-14, at 855 feet, total depth. Salt sand at 808-55 feet carried a small show of gas.

Peterson and others' No. 1-A McKinney, SW NE NW Section 16-15-14, had a hole full of water in sand at 1,050-52 feet, total depth, and was abandoned.

Keaton and Gold are shut down in their No. 2-A Barnett, CSL NW SE NW Section 25-11-11e. Booch sand at 1,868-1,948 feet had a 10-bbl. show; Deaner sand at 2,335-64 feet was dry. Total depth was 2,411 feet.

New operations in this area are as follows: C. O. Buckles' No. 1-A Spaniard, NE SW SW SE Section 36-16-13, rigging up; Crews-Armstrong's No. 1 Barnett, NE SW SE Section 8-16-14, location; Texas Co.'s No. 9 Duff, SE SW NE SE Section 11-14-12, old well being deepened, drilling 2,670 feet; Colton and Phillips Petroleum Co.'s No. 1-A Marsey, NW NE SE Section 20-13-13, spudding; W. L. Flenning's No. 5 Johnson, NW SE SE Section 2-10-11, rigging up.

Greater Seminole Area

In the North Keokuk sector of Pottawatomie County, Carter Oil Co. and others have completed their No. 1 Smith, C W half SE SE Section 14-11-6, for 626 bbls. oil in 24 hours, estimated 50 per cent water from Wilcox sand at 4,520-25 feet, total depth.

In the Keokuk Pool, Carter Oil Co. and others' No. 2 Riddle, 990 feet S and 760 feet W of NE cor. SE Section 35-11-6, flowed 453 bbls. in 24 hours, total depth 4,024 feet in Hunton lime. It was shut down waiting effects of acid treatment.

B-M-W PRODUCTS for pumping wells
The KEY to LOWER LIFTING COSTS
CORRECTLY DESIGNED · · ECONOMICALLY PRODUCED
REASONABLY PRICED

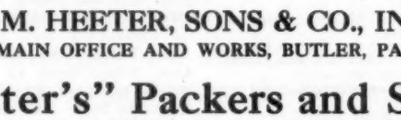
B-M-W
ADMORE Liner Barrels produce more oil at Less Cost

Their reputation and popularity dates from their introduction: they are soundly engineered, well made of selected materials.
Result: a type of performance that is not surpassed.

The new type Hold Down has met with universal approval, and the use of 8-Cup Double Group Plunger Fittings for deep wells is meeting with steadily increasing favor.

Stocked by Good Supply Stores

BRADFORD MOTOR WORKS INC.
OIL WELL SUPPLIES
BRADFORD, PA. TULSA, OKLA.
EXPORT OFFICE—30 CHURCH ST.—NEW YORK CITY



C. M. HEETER, SONS & CO., INC.
MAIN OFFICE AND WORKS, BUTLER, PA.
"Heeter's" Packers and Swabs
Heeter's Improved Patent Swabs, Corrugated Friction Sockets, Wire Line Pumping Outfits, Sand Pumps and other Gas and Oil Well Materials

AXELSON
HI-TENSILE SUCKER RODS
(semi-non-corrosive)
In 12 wells decreased rod breakage and corrosion, an average of 83%, per installation

AXELSON MANUFACTURING COMPANY
P. O. Box 710, Vernon Station, Los Angeles, California
TULSA 50 Church St., NEW YORK ST. LOUIS
Mid-Continent and Eastern Distributors:
Frick-Reid Supply Corporation
Rocky Mountain Distributor:
Great Northern Tool & Supply Company

Same companies' No. 1 Pipkin, C N half SE NW Section 2-10-16, was completed for 1,052 bbls. in 24 hours from Misener sand at 4,124-39 feet, total depth, after acid treatment. It flowed 443 bbls. in 17 hours before treatment.

Blackwell Oil & Gas Co.'s No. 1 Whale-pease, SE SW SW Section 7-9-5, Earlsboro Townsite Pool, had Hunton lime at 4,142-66 feet, total depth, 4,167 feet in Sylvan shale. It was plugged back to 4,166 feet, swabbed 20 bbls. in 24 hours, then acidized with 1,000 gallons to produce 110 bbls. net oil in three hours. It had not been completed.

In the East Seminole sector, Campbell and others' No. 1 Lorraine, NE SE NW Section 20-9-7, was bottomed at 4,242 feet in Viola lime, plugged back to 3,475 feet, producing 8,000,000 feet gas, hole full of water and a small show of oil from the Gilcrease sand topped at 3,375 feet. It was abandoned.

Deep Rock Oil Corp. and Summit Drilling Co.'s No. 1 Lozier, NW SW NW Section 20-9-7, was completed for 605 bbls. oil and estimated 60 bbls. water on a 48-hour pumping test. This test was bottomed at 4,137 feet, 58 feet in Hunton lime, plugging back to 4,130 feet, acidized and shot.

Olympic Oil Co.'s No. 1-A McClassen, SE NW SW Section 12-9-8, north of Wewoka, produced 40,000,000 feet of gas and 134 bbls. of oil in seven hours with an estimated 2 bbls. of water per hour from Cromwell sand at 3,435-78 feet, total depth. It had not been completed.

In the Bowlegs sector, Magnolia Petroleum Co.'s No. 1 Williams, SE SW NW Section 18-8-7, is a producer in the Cromwell sand at 3,260-63 feet, total depth, tanking 224 bbls. in 24 hours on flow through tubing. It was not completed.

Ligon and Todd have completed their No. 2 Wilson, NE NW Section 30-8-8, Wewoka Townsite Pool, for 50 bbls. in 24 hours from the Hunton lime at 3,747-3,911 feet. This was a Wilcox sand failure plugged back. Total depth was 4,047 feet in Wilcox sand.

In the Holdenville Pool, Hughes County, Harman and others' No. 1 Verson, CEL SE NW Section 15-7-8, found sand at 2,946-56 feet and was completed for 18 bbls. Total depth was 3,090 feet, 22 feet in the Gilcrease sand.

Limestone Oil & Gas Co. completed its No. 13 Walker, CNL SE SE NE Section 15-7-8, for 152 bbls. on the pump. Calvin sand was at 1,200-28 feet. Total depth was 1,238 feet. It was shot with 55 quarts.

In the Fish Pool, Blackwell Oil & Gas Co. and Jones' No. 1 Ferguson, NW SW SW Section 29-7-8, swabbed 604 bbls. in 24 hours. Gilcrease was topped at 2,875 feet; Wapanucka topped at 2,990 feet; 8-inch casing at 3,002 feet; Cromwell sand at 3,019-50 feet, total depth. Production was from the Cromwell.

In the Asher Pool, Frank Russell, Inc., No. 1 McDaniels, SW cor. Section 19-6-4, pumped 27 bbls. after two shots and 1,000 gallons of acid was given sands found at 3,268-72 and 3,328-3,591 feet. Viola lime at 3,693-3,782 feet carried a hole full of sulphur water.

New operations starting in the Greater Seminole area the past week are as follows: Campbell and others' No. 1 Fee, NW SW NE Section 20-9-7, rig; Elliott and Shell Petroleum Corp.'s No. 5 Pickens, SW NW NW NE Section 15-7-8, machine; Blackwell Oil & Gas Co.'s No. 2 Ferguson, CWL SW NW SW Section 29-7-8, rig materials; Burke Greis and others' No. 1 Lousa, NW SW SW SW Section 29-7-8, rig; Champlin Refining Co.'s No. 1 See, SE NE SE Section 30-7-8, rig material; Turner and others' No. 1 Williams, SW cor. Section 35-7-10, wildcat test, rig material; Stanolind Oil & Gas Co.'s No. 1 Walker, SE NE NW Section 21-5-5, location, and Pioneer Petroleum Corp. and McCoy's No. 1 Bayne, SE SW SW Section 16-5-6, old well to deepen, top Mayes 2,125 feet, drilling at 2,280 feet.

St. Louis Sector

In the St. Louis sector, Pottawatomie County, Hodge Drilling Co.'s No. 1 Gregory, NW SW Section 29-8-4, is shut down for pipe line connection. Misener sand was had at 4,366-70 feet, total depth, flowing 202 bbls. in three hours.

Sayre and others' No. 1 Green, SW SE NW Section 15-7-4, swabbed 1,200 bbls. in 30 hours of its potential test. Total depth is 4,266 feet, 45 feet in Simpson dolomite formation.

New operations were: E. W. Jones' No. 1 Brandenberg, SW NW NE Section 10-7-4, rig, and Bishop Oil Co.'s No. 1 Zoller, CEL NE NW NE Section 6-6-5, spudding.

Pontotoc County

On the west side of the Beebe Pool, Pontotoc County, Mid-Continent Petroleum Corp. is getting a nice well in No. 1 Milligan, SE NE NE Section 25-5-4. Hunton lime at 2,340-46 feet, total depth, yielded 1,555 bbls. in 22 hours natural. It had not been completed.

In the Fitts Pool, where W. A. Delaney has a new producing horizon, No. 2 Craddock, NE cor. Section 25-2-6, from sand at 4,440-48 feet, total depth, produced 324 bbls. in 24 hours, natural. The crew was preparing to run tubing.

Fleetborn Oil Co. has abandoned No. 1 Reynolds-Wagner, C NE SE SE Section 18-2-7. Total depth was 2,460 feet in a water sand.

Magnolia Petroleum Co.'s No. 1 Lewis, SW cor. Section 19-2-7, has been completed for 164 bbls. in 24 hours from Hunton lime at 3,717-3,989 feet; total depth being 4,002 feet in Sylvan shale. It was acidized with 1,000 gallons.

Schermerhorn Oil Co. has abandoned No. 1 Norris, NW NE Section 19-2-7, at a total depth of 2,016 feet. Shallow sands were missed in this one.

Crosbie and Moran were drilling ahead in No. 2 Hardin, NW SW NE Section 30-2-7, having topped the Hunton lime at 3,377, and at 3,445 feet an oil showing.

There was only one new operation in this area the past week, it being W. A. Delaney's No. 1 Craddock, NW SE NE Section 25-2-6, a location.

SOUTHERN OKLAHOMA ACTIVITY

Marshall County

Marshall County had only one completed well during the past week, it being Letz and others' No. 3 Coatsworth, SE NW NW NW Section 32-5s-6e. Sand at 546-85 feet carried a hole full of water and it was abandoned at a total depth of 670 feet in shale.

There were two new operations: Nunn and Stinnett's No. 1 Lindecker, NW cor. Section 7-8s-6e, wildcat, drilling at 100 feet; Wham and others' No. 1 Ulrich, SW NE SW Section 36-5-6, drilling at 666 feet.

Jefferson County

Jefferson County recorded no completions over the week but two new starts were had in Farlyn Oil Co.'s No. 20 Seay, 580 feet north and 640 feet west of SE cor. Section 3-7s-5w, drilling at 120 feet; Bridwell Oil Co.'s No. 2 Seay, SE NW NE Section 30-6s-5w, rig up, moving in tools.

Carter County

Amos Drilling Co. has completed its No. 2 Sparks-Hooks, NE SE SE Section 13-1s-3w, Tatums Pool of Carter County. It was dry and abandoned at 2,180 feet.

Samedan Oil Co.'s No. 8 Hopson, SW NE Section 25-1s-3w, swabbed and flowed 230 bbls. in 24 hours from sand found at 2,621-47 feet, total depth.

First reports for this area are as follows: Skelly Oil Co.'s No. 3 Moore, SE NW Section 17-2s-2w, location; Schermerhorn Oil Co.'s No. 18 Marcum, 740 feet S and 950 feet E of C Section 3-4s-3w, drilling at 50 feet.

Stephens County

Stephens County had no completions over the week. Two new operations were started and are listed here: Beard and Kolb's No. 2 Wade, SE SW NW NE Section 11-2s-8w, old well to deepen, old total depth 1,530 feet, sand 1,717-26 feet, show oil, total depth 1,765 feet, running liner; Louis Sikes' No. 4 Mulkey, CEL NE Section 16-1-8w, rig.

Fulton Duplex Sensitive Gas Governor

The Utmost Delicacy
of
REGULATION

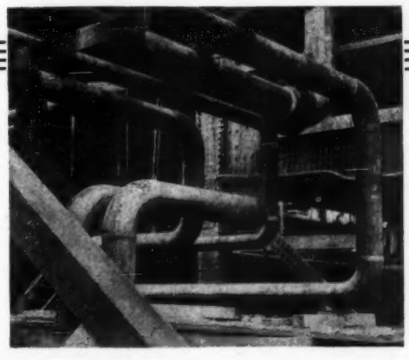
GF

A HIGH and variable inlet pressure can be reduced to a low and unvarying outlet pressure by the specially designed and precisely made Fulton Duplex Sensitive Gas Governor. A mixture of natural and manufactured gas can be controlled with extreme accuracy and with perfect assurance. Frictional surfaces reduced to a minimum, diaphragm area extraordinarily enlarged, and noncorroding materials scientifically adapted to their use, account largely for the success of this dependable Governor. Extremely simple. Easily and quickly installed. No accessories to give trouble. Ask for full description.

The Chaplin-Fulton Manufacturing Co.
28-40 Penn Avenue **Pittsburgh, Pa.**

REPRESENTATIVES:

WESTCOTT & GREIS, Inc., *Sales and Service* Dallas—Tulsa
C. H. COLLINS 628 Dwight Bldg. Kansas City, Mo.
HIMELBLAU, BYFIELD & CO. 228 N. LaSalle St. Chicago, Ill.
Or Any Jobber



WELD it . . . . then FORGET it!

The properly welded piping installation is exactly the same, in effect, as if it were made from a single piece of pipe. The major item of pipe maintenance cost—leaky joints—is eliminated.

Taylor Forge Seamless Steel Welding Fittings insure this type of installation and uniform strength throughout the piping system. The bright, machine-tool bevelled welding surfaces enable the welder to make a perfect weld, and selective reinforcement makes these fittings the strongest part of the pipe line.

Taylor Fittings include "Weldells", Tees, Reducing Nipples, Welding Flanges, and Welding Caps in all types, sizes and pipe thicknesses.

Write for complete data.

TAYLOR FORGE & PIPE WORKS
General Offices and Works, Chicago, Ill.
P. O. Box 485
New York Office, 50 Church Street

TAYLOR FORGE
SEAMLESS STEEL WELDING FITTINGS

Rice County Leads Completed Work in Kansas in Past Week; Production Hugs Allowable

By JAMES McINTYRE

While there is plenty of oil activity in Kansas, the past week's news was largely of a routine character. Rice County led in completed and near-completed wells in the past week, as McPherson did in the previous week. Production remained about the same being little over the allowable.

Daily Average Production

Estimated daily average production in the week ending July 21 and the preceding week was as follows:

Pool—	Barrels July 21	Barrels July 14
Hollow	10,505	10,683
Ritz-Canton	14,925	15,230
Voshell	6,760	6,885
Johnson	1,911	1,845
Sedgwick County	7,065	7,000
Nikkell	7,155	7,210
Ellsworth County	3,215	3,640
Barton County	1,506	1,375
Rice County	15,024	14,169
Reno County	5,180	5,192
Ellis County	730	875
Kingman County	1,445	1,562
Stafford County	1,765	1,509
Russell County	7,705	7,995
Greenwood County	12,700	12,750
Butler County	19,700	17,400
Other pools	18,245	20,350
Total	135,535	135,670

The Texas Co.'s No. 2 McFarland, NW SE SW Section 7-20-9w, was abandoned when a shot of nitro resulted in the casing being lost in the hole. Siliceous lime at 3,297 to 3,344 feet, total depth, was acidized but dry.

Empire Oil & Refining Co.'s No. 6 Heckel, SW NW SW Section 18-20-9w, had Siliceous lime at 3,336-43 feet, total depth, which was good for 435 bbls. on the pump.

Aylward and Trees and others' wildcat test, No. 1 Beldon, SW SE NE Section 27-20-7w, was dry and abandoned in Siliceous lime at 3,735-53 feet, total depth, which carried a hole full of water.

Atlantic Oil Producing Co. had abandoned location for No. 1 Schmidt, 660 feet south and 440 feet east of the NW cor. SW Section 11-19-10w.

Smith and Ash's No. 2 Beyers, NW NE NW Section 21-19-9w, encountered 8,000,000 feet of gas in sand at 2,000-15 feet, but was abandoned at a total depth of 3,301 feet, 6 feet in a water sand.

Keith and others' No. 1 Grove, SE NW Section 29-19-9w, lying between the Beyers Pool and the Chase Townsite Pool, gauged 215 bbls. of oil and 5 bbls. of water on a 24-hour potential test. Producing formation is K. C. lime at 2,932-85 feet, total depth, which was treated twice with acid.

Rice County had three new operations starting up over the week, same being Empire Oil & Refining Co.'s No. 1 Miller, SE NE SE Section 13-20-10w, location, and Lario Oil & Gas Co. and others' No. 3 McFarland, NE SW Section 7-20-9w, moving in material; Yingling and others' No. 1 Hadgson, NW SW SW Section 1-18-8w, location.

Ellsworth County

Slick-Urschel, Pryor and Lockhart's No. 1 Wilkins "A," NE cor. Section 24-17-10w, Heiken Pool of Ellsworth County, got a hole full of water in the Siliceous lime at 3,233-67 feet, total depth, water coming from the last few feet drilled. It was being plugged back to 3,260 feet at which depth there was an oil showing. These same companies' No. 1 Wilkins "B," SW cor. Section 18-17-9w, a northeast offset to the above mentioned well, found Siliceous lime to be more generous, swabbing 217 bbls. of oil in 21 hours. It has not been completed.

Gypsy Oil Co.'s No. 2 Kozisek, NE SE SE Section 16-16-10w, Stoltenberg Pool, was put to the swab for seven hours, producing 280 bbls. of oil from Siliceous lime had from 3,389-91 feet, total depth. It had not been completed.

Stafford County

In Stafford County, Vickers Petroleum Co. and others' No. 1 Cravens, SW NE Section 15-25-11w, an old well deepened, based the Viola lime at 4,025 feet, had Siliceous lime at 4,090 to 4,103 feet, total depth, with a hole full of water. It was dry and abandoned.

Two new operations started up in Stafford County over the week: Empire Oil & Refining Co.'s No. 1 Schilling, C NW SW Section 26-21-13w, location; Shell Petroleum Corp.'s No. 1 Schilling, C SW SW Section 26-21-13w, moving in material.

Russell County

Russell County had one dry hole, one location abandoned, one new location and two wells showing for oil wells. The list follows:

Signal Oil & Gas Co. has abandoned location for No. 2 Sellens, NE SE NW Section 26-15-13w.

Liggett and Shell Petroleum Corp.'s No. 1 Chrisler, C SW SW Section 9-11-15w, topped the Oswald lime at 3,085 feet, had a hole full of water at 3,277 feet, small show of oil at 3,301-03 feet, and was abandoned at a total depth of 3,306 feet.

Tom Palmer's No. 2 Borrell, SE NE Section 21-13-14w, produced 700 feet of oil in the hole in seven hours from Siliceous lime had at 3,275-98 feet, total depth.

Sinclair Prairie Oil & Gas Co.'s No. 2 Brungart, SW NW Section 31-12-15w, was drilling at 3,008 feet, with 200 feet of oil in the hole coming from the Oswald lime topped at 3,023 feet.

Empire Oil & Refining Co.'s No. 1 Mai, NW SW Section 24-15-14w, was a new location.

Wildcat Operations in Kansas

Week Ending July 21

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 George, C SE SW Sec. 12-33-10w.
Drlg. 1,450 ft.

Lario O. & G. Co.'s No. 1 Whelan, C NW Sec. 32-31-11w.
Drlg. 4,173 ft.

BARTON COUNTY

Atlantic O. P. Co.'s No. 1 Straub, C SE NW Sec. 36-18-11w.
10-in. 2,332 ft.; drlg. 3,066 ft.

Gypsy Oil Co. and Atlantic Prod. Co. and Shell Pet. Corp.'s No. 1 Batchman, C SW NE Section 18-20-12w.
Bldg. rig.

Harris & Haun and J. Brook's No. 1 Dietz, NE SW Sec. 21-16-15w.
Drlg. 692 ft.

Murphin and Downing's No. 1 Lanterman, NW SE Sec. 15-19-11w.
Cellar.

National Ref. Co.'s No. 1 Ingersoll, C NW NE Sec. 2-19-13w.
T.D. 1,810 ft.; fishing.

Walter Shearen et al's No. 1 Kempler, SE NE NE Sec. 31-18-11w.
S.D. 300 ft.

BUTLER COUNTY

L. C. Hay et al's No. 1-A Bolin, SE SW SE Sec. 36-26-4.
K.C. lime 2,050-2,176 ft. T.D., acidized; pumped 12 bbls. oil and 20 bbls. water; completed.

CLAY COUNTY

Seidel Bros.' No. 1 Youkers, C S½ SE NW Sec. 21-9-4.
Drlg. 920 ft.

COWLEY COUNTY

National Ref. Co.'s No. 1 Harader, NW SW NW Sec. 11-34-4.
Location abd.

National Refining Co.'s No. 1 Robinson, NE SE NE Section 11-34-4.
T.D. 1,468 ft.; C.O.

Roth & Farout's No. 1 Fox, SE SW Sec. 35-30-7.
S.D. 1,150 ft.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
T.D. 2,025 ft.; S.D.

ELLIS COUNTY

Ashby et al's No. 1 Mermis, NW cor. NE Sec. 34-13-16w.
Rig.

ELLSWORTH COUNTY

Elwell et al's No. 1 Campbell, SW cor. Sec. 20-17-7w.
Bldg. rig.

GREENWOOD COUNTY

Greeley et al's No. 1 Satler, SW SE SW Sec. 28-25-12.
T.D. 38 ft.; set 10-in. csg.

Ward McGinnis' No. 1 Sample, NE SE Sec. 16-25-10e.
Drlg. 1,470 ft.

HARPER COUNTY

R. G. Berry's No. 1 Anthony, C SW SW Sec. 17-31-9w.
T.D. 4,233 ft.; fshg.

HARVEY COUNTY

Hollow et al's No. 1 Swafford, NW NE NW Sec. 8-22-1w.
Drlg. 1,440 ft.

Wenzel et al's No. 1 Schrag, NW SE Sec. 24-22-3w.
Rig.

KINGMAN COUNTY

W. C. McBride, Inc.'s No. 1 Wolbridge, NW SE Sec. 16-27-7w.
T.D. 1,705 ft.; U.R. 12-in. csg.

McPHERSON COUNTY

Marileen Oil and Goering Bros.' No. 1 Decker, NW cor. SE Sec. 20-18-1w.
T.D. 1,995 ft.; fishing.

Tom Palmer and Phillips Pet. Co.'s No. 1 Moddelmog, NE NE NW Sec. 8-21-1w.
Rig up.

OSAGE COUNTY

Jim Edwards' No. 1 Detrich, C NW SE Sec. 21-14-15.
Machine.

OSBORNE COUNTY

Carmen & Hershey's No. 1 Fritz, C NE NE Sec. 9-10-14w.
S.D. 700 ft.

RENO COUNTY

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w.
Ponds and cellar.

L. H. Wentz' No. 1 Metcalf, SE NE SW Sec. 3-24-7w.
T.D. 3,370 ft.; U.R. 8-in. csg.

Sinclair Prairie Oil Co.'s No. 1 Shepard, SE cor. NW Sec. 22-26-9w.
T.D. 4,288 ft. in Wilcox sand; dry; S.D.

RICE COUNTY

Aylward & Trees' No. 1 Belder, SW SE NE Sec. 27-20-7w.
3,720 ft. in Simpson, H.F.W.; Siliceous 3,735-53 ft. T.D.; H.F.W., dry and abd.

Deitrick et al's No. 1 Fitzpatrick, C NE NE Sec. 30-21-8w.
Drlg. 2,480 ft.

Elwell et al's No. 1 Porter, NE NW Sec. 5-18-7w.
Rig.

Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w.
H.D. 2,425 ft.; fsg.

Reserve Dev. Co.'s No. 1 Heinz, NE SW SE Sec. 3-18-10w.
Siliceous lime 3,256-69 ft.; T.D.; acidized; pump 20 bbls. daily; S.D.

Robertson et al's No. 1 Johnson, NW cor. SW Sec. 22-19-8w.
T.D. 2,215 ft.; U.R. 8-in. csg.

ROOKS COUNTY

Ashby et al's No. 1 Doughty, C SW SW Sec. 15-8-19w.
Drlg. 2,607 ft.

Phillips Pet. Co.'s No. 1 Dopita, C SW SW Sec. 31-8-17w.
Acidized 3,212-17 ft.; pumped 103 bbls. oil, 11 bbls. wtr. in 14 hrs.; re-treatg. with acid; 40 bbls. oil, 60 bbls. water.

RUSH COUNTY

Central States L. & P. Co.'s No. 1 Basgall, SE cor. Sec. 10-17-16w.
Location.

RUSSELL COUNTY

Blair et al's No. 1 Funk, SW NW SE Sec. 16-14-14w.
Location.

Blair et al's No. 1 Hill, SW NE Sec. 14-13-14w.
S.O. 2,760-65 ft.; drlg. 3,320 ft.; Siliceous lime, dry.

Lario et al's No. 1 Nudenthal, NE NE Sec. 33-14-15w.
Spudding.

J. H. Liggett's No. 1 Chrisler, C SW SW Sec. 9-11-15w.
H.F.W. 3,260 ft.; 3,301-03 ft.; small show oil, T.D. 3,306 ft.; dry and abd.

SEDGWICK COUNTY

Bar Key Pet. Co.'s No. 1 Swenson, C NE Sec. 6-26-2.
S.O. 2,975 ft.; T.D.; S.D.

Corn & Aylward's No. 1 Heck, NW SW Sec. 2-27-1w.
Set 8-in. 3,151 ft.; drlg. 3,205 ft.

Cromwell & Lewis' No. 1 Hammond, SW NW Sec. 23-27-2w (O.W.D.D.).
Rigging up.

D. Lauck's No. 1 Gillespie, NE SE SW Sec. 6-28-2w.
Three bbls. oil, 30 bbls. water from chat; abd.

Jones, Kirk et al's No. 1 McQuillan, NE NW NE Section 21-29-2w.
Bldg. rig.

Shawver et al's No. 1 Schulte, NE NE Sec. 13-28-2w.
Drlg. 3,130 ft.

(Continued on Page 145)

Rush County

Mid-Kansas Oil & Gas Co.'s No. 1 Mohr, C NW Section 10-18-16w, was looking good, having produced an estimated 8,000,000 feet of gas and 500 bbls. of oil from Siliceous lime at 3,523-26 feet, total depth. It was then shut in for tankage. This is the first commercial oil well in this field, other wells having been completed for fairly good sized gas wells.

The only completion in Rush County was Schermerhorn Oil & Gas Co.'s No. 1 Mauler, C NE Section 14-18-16w, which had Siliceous lime pay from 3,497 to 3,528 feet, total depth, yielding 47,000,000 feet of gas, 1,035 pounds rock pressure. It was completed as a gas well.

Kingman County

Skelly Oil Co. completed No. 5 F. C. Miles, NW NE Section 30-27-10w, Cunningham Pool of Kingman County, the well flowing 250 bbls. in 24 hours after acid treating the Lansing lime at 3,390 to 3,473 feet, total depth.

Barber County

Barbara Oil Co.'s No. 2 Angell, C NE NE Section 23-33-13w, Barber County, will not be deepened as previously reported. Old total depth is 4,588 feet.

Sedgwick County

D. Lauck's No. 1 Gillespie, NE SE SW Section 6-28-1w, Sedgwick County, had a hole full of water in Viola lime at 3,686-91 feet, total depth, and was plugged back to 3,400 feet, casing ripped and sand shot at 3,354-84 feet, produced 3 bbls. of oil and 30 bbls. of water. It was abandoned.

George Dickey's No. 2 Nolan, NE cor. Section 20-28-1e, had chat from 3,058 to 3,111 feet, total depth, flowing 561 bbls. on a three-day average production test. It was acidized with 1,000 gallons and flowed 2,412 bbls. in three days for a daily average of 804 bbls. of oil and 40 bbls. of water. It was completed.

Harvey County

Harvey County had three completions and three first reports during the week. The list follows:

The Texas Co.'s No. 4 Andrees, SW NW SW Section 8-22-3w, Nikkel Pool, was completed for 8 bbls. of oil and 12 bbls. of water from Hunton lime found at 3,432-63 feet, after acid treatment. This well was drilled to the Wilcox sand which carried a hole full of water. Total depth was 3,596 feet and it was plugged back to 3,463 feet.

McBride, Inc.'s No. 1 Friesen, NW SW Section 20-22-3w, an old well deepened, in Hollow Pool, based the Hunton lime at 3,515 feet, and at a total depth of 3,532 feet was acidized to produce 960 bbls. on the pump.

The same company's No. 2 Friesen,

(Continued on Page 133)

4-SOUND REASONS

for using

T-I-W CHRISTIAN BITS

1: Has long shank to insure straight hole.

2: Affords pressure-on-bottom advantages of short bit.

3: Oval shaped body builds better side walls faster.

4: Design of body minimizes balling up in sticky formations.

Every bit honestly and correctly dressed. Excellent field service. Your business solicited.

TEXAS IRON WORKS

1401-1423 Maury St. • HOUSTON, TEXAS

Among Gulf Coast Drilling Contractors

C. & R. G. Drilling Co. (Gus Cormier), has finished rigging up on a well for the Gillock Petroleum Co. in the H.T.&B. R.R. Co. Survey, Brazoria County. Same company is rigging up to drill a well for the Feltex Oil Co. in Victoria County. On its own production in the Big Creek Field, Fort Bend County, the company is preparing to install a bottom hole separator in its No. 2 Ahlers, preparatory to flowing with air. The company is also preparing to cut liner and screen out of its No. 2 B. J. Wheat, Big Creek Field, which will be deepened.

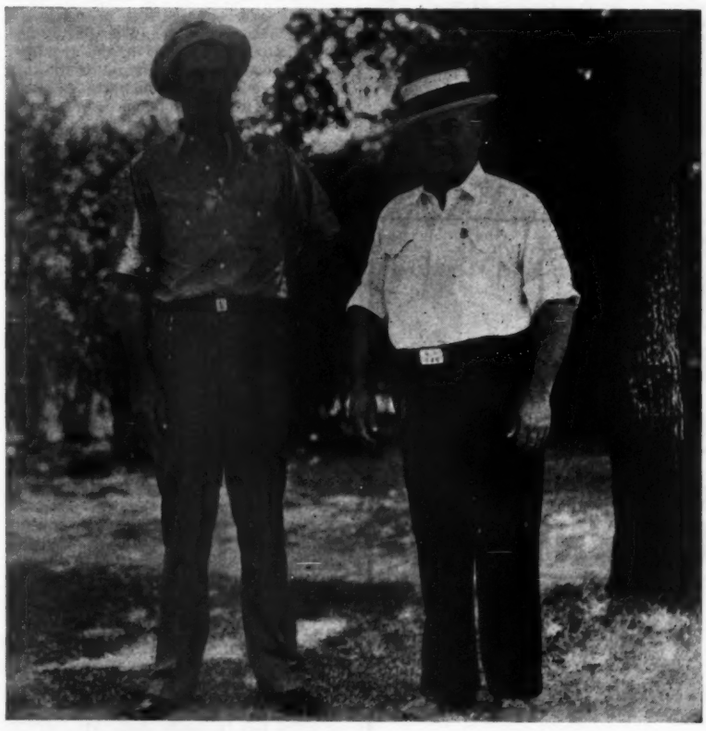
Smith & McDannald are moving a rig to a new location for the Tide Water-Seaboard companies at Cayuga, to be carried as No. 1 R. H. Rampy. Same company also has rig setting up on a new location at Bosco, La., for the Superior Oil Co., to be carried as No. 1 Leonard Savoie. The company is also rigging up one of its new California type heavy rigs on No. 1 Alex Forrestier for the Superior Oil Co. at Bosco.

Frank Long is rigging up to drill a test for Albert Plummer in East Texas, where he has just finished a well for the same operator. Mr. Long also has one rig running for Jack Clark in the Manvel area.

Edwards Drilling Co. is drilling at 6,900 feet in lime and shale on its well for Woodley Petroleum and others at Church Point, La. The company also has one rig running for the Humble Oil & Refining Co. in East Texas.

C. & C. Drilling Co. has a new location for Gem Oil Co. in the Livingston Field, Polk County, which will be carried as No. 1 Allen Highberger. Same company has set 512 feet of surface casing in a well for the Southern Seaboard Oil Co. in the southern part of Burleson County. The company also has one rig running in Fort Bend County for the Gem Oil Co., and one in Jackson County, Vanderbilt Field, for the Phillips Petroleum Co.

Harvey S. Smith has about completed rigging up on a well for the Vico Oil Co.'s No. 1 Darst, in the Kendleton district, Elizabeth Powell League, Fort Bend County. The well will be spudded within a week.



Respected throughout the Gulf Coast as one of its most seasoned veterans in the well drilling business, G. J. (Gus) Cormier, president of the C. & R. G. Drilling Co. (shown to the right of Mr. Crumpler), launched his career in the producing end of the oil business as a roughneck for the Texas Co. in the Sour Lake Field in 1909. His first roughnecking job was also his last, and for three years Mr. Cormier ran a rig for the company in this field. He then took a job as field superintendent for the Tarver Oil Co. in charge of its properties at Sour Lake. When the Tarver Oil Co. sold its Sour Lake production to the Gulf Oil Co., Mr. Cormier went along as superintendent for the Gulf, staying with the job for a year, when he rejoined the Tarver company which was then commencing operations in North Texas during the Electra boom. In 1920 he went into the contracting business for himself, drilling wells throughout the Mid-Continent. At one time he had four rigs running in Oklahoma, two in Oklahoma City and two in Seminole. In 1930 he moved his rigs out of Oklahoma, made all of the East Texas boom, and has since dug a number of wells in the Gulf Coast. He dug the discovery well in the Livingston Field for Dick Schwab, and together with W. M. Crumpler, his tool pusher, dug Schwab's discovery well at Ace, Polk County. Mr. Crumpler has been associated with Mr. Cormier since 1925. He entered the drilling business in 1916 at Homer, La., and has had extensive experience in well drilling in Texas, Louisiana and Oklahoma. The company at present has one rig setting up for the Gillock Petroleum Co. in Brazoria County, one rig running for the Feltex Oil Co. in Victoria County, and one rig on a workover job on its own property in the Big Creek Field, Fort Bend County.

DEEP WELL DRILLING

By Walter H. Jeffery

816 pages; 425 illustrations, including 12 large folded insert derrick diagrams.

L. G. E. Bignell, Petroleum Engineering Editor of The Oil and Gas Journal, in reviewing this volume says:

"Anyone who is interested in any phase of production in the petroleum industry can hardly afford to be without a copy of this book. It deals with all subjects, from the geology of petroleum and geophysical methods of prospecting for favorable locations for accumulations of gas and oil, through the building of derricks, drilling the hole with cable tools and rotary outfits, also diamond drilling methods, to the finishing of high-pressure wells, and finally closes with information on the various production methods applied to small wells. The data contained in this book is recognized as authoritative, and it has been used as a textbook in many universities and technical schools offering a petroleum engineering course."

Price $6.00 postpaid

Order your copy today from the Book Department of

The OIL and GAS JOURNAL

Tulsa, Oklahoma.

RED BALL CUTTING SERVICE

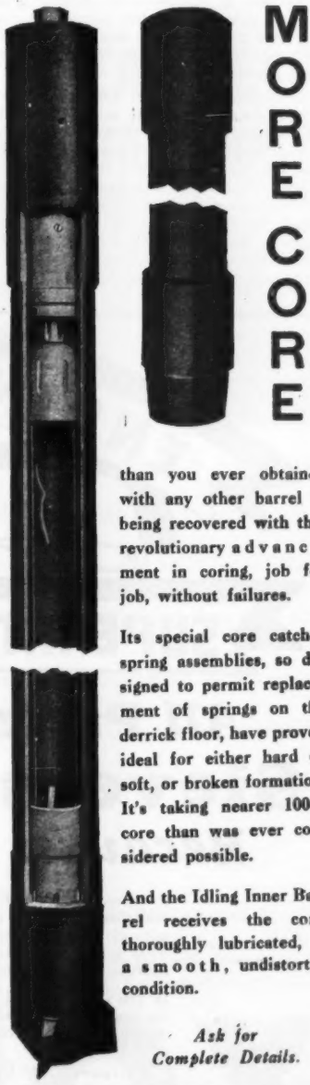
500 FEET

of Drill Pipe

is the average length recovered per cut in the history of our OUTSIDE CUTTING TOOL. Thus the number of round trips is reduced, and your resulting cost is less.

J. S. Abercrombie Co.

21st FLOOR GULF BLDG. HOUSTON – TEXAS



MORE CORE

than you ever obtained with any other barrel is being recovered with this revolutionary advancement in coring, job for job, without failures.

Its special core catcher spring assemblies, so designed to permit replacement of springs on the derrick floor, have proven ideal for either hard or soft, or broken formation. It's taking nearer 100% core than was ever considered possible.

And the Idling Inner Barrel receives the core, thoroughly lubricated, in a smooth, undistorted condition.

Ask for Complete Details.

CAMERON IRON WORKS

INCORPORATED

HOUSTON, TEXAS, U. S. A.

Export: 74 Trinity Place, New York City.

District Representatives:

L. D. HILTON, OKLAHOMA CITY, OKLA.

ED. TAULBEE, ODESSA, TEXAS

FORD DE CORDOVA, LAKE CHARLES, LA.

Third Producer Is Added to New Bosco Field; Good Well on North Side West Hackberry

By A. C. EASTERWOOD
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., July 23.—The third producer was added to the Bosco Field during the past week, extending the producing area nearly a mile west. Superior Oil Producing Co.'s No. 1 Elize Mire, NE Section 33-8s-3e, about three-quarters of a mile west of the discovery, came in flowing at the rate of 1,096 bbls. of 39.2 gravity oil daily through seventeen-sixty-fourths inch choke with total depth of 8,088 feet. It showed 1,410 pounds pressure on tubing and 1,600 pounds on casing. The 7-inch casing was set at 8,067 feet. The well has 7,950 feet of 2½-inch tubing in the hole.

This completion gives the field a producing area of over 1½ miles in length. The second producer, Superior's No. 1 Iseringhausen extended the field to the east two weeks ago when it came in and flowed 677 bbls. of 38.2 gravity oil in 20 hours through sixteen-sixty-fourths inch choke on tubing. Superior's No. 1 Hermandes, discovery well, located between the new producers, is flowing from perforations at 7,845-50 feet, while No. 1 Mire is 238 feet deeper with total depth of 8,088 feet.

The Superior company has four more wells in the area that should have the sand within 10 days, and has started work on part of its 10 new locations which will be drilled simultaneously. This extensive wildcat drilling program, one of the largest of its type ever witnessed on the Gulf Coast, is due to the expiration dates of some of the leases. Superior's No. 1 Sidney Arceneaux and others was drilling sand and shale at 8,287 feet; No. 1 Looanstie Richard was reaming with total depth of 7,902 feet; No. 1 Marcellus Savoie was below 7,834 feet in shale; No. 1 Kahn and others was drilling shale and junk at 6,131 feet. Of the 10 new locations, Superior was rigging up on No. 1 Auguste Martinez in the NE Section 35-8s-3e, derrick had been completed for No. 1 Leonard Savoie, Section 26-8s-3e; foundation had been poured for No. 1 Mrs. Estelle Comeaux and others in the NE Section 34-8s-3e; foundation had also been completed for No. 1 Eddie Prejean (Alex Forrester) in the NE Section 34-8s-3e, and cellar had been dug for No. 1 Sidney Fall in the SE Section 27-8s-3e.

Shell Petroleum Corp. is reported working a reflection crew at Bosco and around Townships 8s-4e and 9s-4e. About 12 miles to the northwest, Edwards Drilling Co.'s No. 1 Daigle, in the SE Section 24-7s-1e, was coring shale and lime at 6,900 feet.

West Hackberry Field

Of great importance during the past week was the completion of a good well on the north side of the dome of the West Hackberry Field in Cameron Parish. Yount Lee Oil Co.'s No. 14 School Land, 100 feet west of No. 10, came in flowing at the rate of 250 bbls. of pipe line oil daily through five-sixteenths inch choke and showed a gas pressure of 350 pounds. After drilling 14 wells the company was successful in bringing in a good producer on the school land section of the West Hackberry Field. In the northwest extension area of the Hackberry Field, Yount Lee Oil Co.'s No. 11 Gulf Land fee, has been completed for 300 bbls. daily through three-eighths inch choke with 115 pounds gas pressure. Total depth is 6,098 feet. Gulf Refining Co.'s No. 14-A M. P. Irwin, in the northeast extension area, is drilling deeper at 6,990 feet in sand after failing to bring the well back on production. The well opened the fifth producing sand in the area several weeks ago when it came in flowing 320 bbls. oil daily through three-eighths inch choke with a tubing pressure of 200 pounds. It flowed only a short time before going dead.

Beauregard Parish

About 10 miles east of De Quincy in Beauregard Parish, Federal Petroleum Co.'s No. 1 Lutcher-Moore was drilling at 8,220 feet. About 6 miles north of No. 1, same operator's No. 1-B Lutcher-Moore was drilling below 2,000 feet. F. W. Martin and Richardson's No. 1 J. E. Cochran, a Conroe trend test in the western part of the parish and 6 miles south of Merryville, has been abandoned as dry with total depth of 6,526 feet. Five companies have geophysical crews working in this parish, Texas Co., Gulf Refining Co., Amerada Petroleum Corp., Ohio Oil Co. and Humble Oil & Refining Co. Texas Co. has a reflection crew working around Section 4-5s-8w; Gulf a pendulum crew around Township 5s-9w; Amerada a reflection crew around Section 28-4s-11w; Ohio a torsion balance crew in the southern part of Township 3s-11w, and Humble a four-instrument torsion balance crew in the southern part of Township 6s-8w.

Roanoke Area

In the recent discovered Roanoke area in Jefferson Davis Parish, Shell Petroleum Corp.'s No. 1 Jernigan was drilling at 6,926 feet in sandy shale. Humble Oil & Refining Co.'s No. 1 Martin Kratzer, about half a mile southwest of Shell's discovery, was drilling at 1,785 feet. Humble's No. 3 Devilbiss, about three-quarters mile southwest of Shell's discovery, was drilling at 6,199 feet. Begol Oil Corp. is reported to have purchased one-sixty-fourth of the royalty under the east 160 acres of the S half Section 11 and one-thirty-second royalty interest under the west 160 acres of the S half Section 11, consideration reported at $21,350. The acreage lies between Humble's two drilling wells.

On the southern part of the structure on the old Welsh Dome, Jefferson Davis Parish, Tide Water Oil Co.'s No. 1 Mrs. A. Bourgeois was coring below 5,949 feet. The well has had several good shows and has been attracting considerable interest.

Old Boling Field

Of especial importance during the week was the favorable indications of a new producing sand southeast of the old Boling Field in Fort Bend County. J. E. Seiber's No. 1 J. B. Farmer, in the James Scott Survey, showed 26 fourbles of pipe line oil in 10 minutes through one-quarter inch choke on a drill stem test from 4,000-25 feet. Late in the week operators were preparing to set casing. It topped the Oligocene at 4,090 feet and had top of Discorbis at 4,150 feet. Gem Oil Co.'s No. 1 Farmer, on a 3,000-acre block near Needville and in the Robert Hodges Survey, was drilling at 4,285 feet. At Blue Ridge in Fort Bend County, Mills Bennett's No. 1 Luschner had plugged back from 4,492 feet to 3,950 feet and tested salt water with a little oil. It topped Discorbis at 3,403 feet, had top of Heterostegina at 3,619 feet, drilled top of Frio at 3,703 feet, went into Vicksburg at 4,250-4,445 feet, and had top of Jackson at 4,469-79 feet. South of Richmond it is reported Mr. Head and associates have acquired over 4,000 acres on a 60-day option for geophysical work.

At Splendora

At Splendora in Montgomery County, Humble Oil & Refining Co.'s No. 1 Anna M. Platte, east of Steen's discovery, was drilling below 3,640 feet. West of the town of Conroe and in the Mary Corner Survey, Shell Petroleum Corp.'s No. 1 Crighton, was rigging up. Shell is reported to have recently taken additional acreage around the well. Sayre Oil Co.'s No. 1 Delta Land Lumber Co., north of Willis and in the J. Truitt Survey, has spudded.

Cleveland Area

At Cleveland in Liberty County, Gulf Production Co. has staked location for No. 5-C Kirby, 933 feet west and 500 feet south of No. 4-C in the J. Pleasant Survey. It has completed derrick. In the northeast corner of Liberty County about 2 miles north of Rayburn, Magnolia Petroleum Co. has staked location for No. 1 Maco Stewart, 2,600 feet east and 1,370 feet south of the northwest corner of a 350-acre tract in the A. Cherry Survey. At Hankamer in Liberty County, Miramar Oil Corp.'s No. 2 Crow & Jacobs was drilling at 5,582 feet. On a drill stem test from 4,624-52 feet open eight minutes through three-eighths inch chokes top and bottom it showed 13 fourbles of salt water with a show of oil and no gas.

North of Harding and in the east central portion of Liberty County, Greer & Frazier plan a Cockfield sand test on their block centering around the James Robeson Survey. Operators are reported to have sold several good spreads. Humble, Sun, Magnolia, Wilks and others, and Gulf are reported to have taken protection.

Hardin County

In Hardin County, Wilcox Oil & Gas Co.'s No. 1 Sternberger, in the C. Dorsey Survey No. 1, was coring at 5,320 feet. The well reported a good show of gas at 5,010 feet. It topped the Oligocene at 3,383 feet, had top of Discorbis at 3,407 feet, and drilled top of Warreni at 4,950 feet. Surface elevation is 81 feet. On the south flank of the Saratoga Dome, Sinclair Prairie Oil Co.'s No. 1 Teel estate was drilling sandy shale at 5,440 feet. On a drill stem test from 5,153-81 feet through one-quarter inch chokes on top and bottom it showed 3 fourbles of salt water in 10 minutes. It topped the Heterostegina 3,413 feet, hap top of Discorbis at 3,364 feet and drilled top of Hockley at 4,475

All Prefer the
Sievers Reamer
Because:

it speeds up drilling—gives a full gauged, smooth, straighter hole. It makes casing easier to set and permits closer allowable tolerances between hole and casing. They act as a stabilizer when run behind the bit, thereby decreasing torque and the danger of a twist off.

If you've ever used a Sievers Reamer you know there are scores of other advantages—if you haven't, try one on the next hole. It will save you time and money.

Exclusive Gulf Coast Sales and Service:

WILSON SUPPLY CO.

1412 Maury St., Houston, Texas

OIL and GAS WELL SUPPLIES

BRANCHES: Barbers Hill, Kilgore, Greta, Gladewater and Tomball, Texas; Lake Charles and Shreveport, Louisiana.

feet. At Sour Lake in Hardin County, Humble Oil & Refining Co.'s No. 1 Kirby and others was drilling sand at 5,765 feet. It had top of Discorbis at 4,186 feet, topped Heterostegina at 4,390 feet, had Frio at 4,635 feet, and went into Vicksburg at 5,702 feet.

Galveston County

South of Dickinson Bayou in Galveston County, Humble Oil & Refining Co.'s No. 1 Maco Stewart, in the John Sellers Survey, was drilling shale at 6,258 feet. It is reported a block of approximately 5,500 acres has been assembled by C. E. Hamil on the west end of Galveston Island for a 7,000-foot test to be started within 90 days.

Austin County

In Austin County, Indian Territory Illuminating Oil Co. and Johnson Brothers are rigging No. 1 August Wrangler, about 3 miles east of the New Ulm area, and in the Adam Kuykendall Survey. Gulf Production Co. is reported to have recently taken 150 acres of the Zettie tract in the S. F. Austin Survey, about 5 miles northeast of New Ulm. At Raccoon Bend, in Austin County, Humble Oil & Refining Co.'s No. 5-B Wilson, in the M. R. Wilson Survey, has been abandoned as dry with total depth of 4,491 feet after failing to encounter the Cockfield sand production. Humble's No. 3 McCasland, in the W. C. White Survey, was waiting on cement with total depth of 4,135 feet in shale. On a drill stem test from 3,101-32 feet open 10 minutes it showed 90 feet of mud with 207 feet of oil.

Harris County

West of the Houston city limits in Harris County, Loring Oil & Gas Co.'s No. 1 Westmoreland has been abandoned as dry with total depth of 6,031 feet. It topped Discorbis at 4,166-69 feet and had Heterostegina at 4,286-4,306 feet. Surface elevation is 84 feet. Near the Humble Field, Emerald Petroleum Co.'s No. 1 Griffith, in the F. Bell Survey, was waiting on cement with total depth of 4,600 feet. It had Discorbis from 3,995-4,025 feet and topped Heterostegina at 4,115-35 feet. In west central Harris County, General Crude Oil Co.'s No. 1 Rorick estate, in the John C. Ogburn Survey, was drilling at 3,228 feet. It had Discorbis at 2,950 feet and had top of Marine Oligocene at 2,800 feet. Elevation is 147 feet. About 9 miles northeast of Houston, Texas-New York Development Co. has spudded No. 1 Ralson, 525 feet from west line and 325 feet from south line of Lot No. 12, J. W. Moody Survey. Four companies have geophysical crews working in Harris County. Texas Co. is working a reflection crew, Humble a four-instrument torsion balance crew, Stanolind a three-instrument torsion balance crew and a reflection crew, and Gulf Production Co. a pendulum crew.

Livingston Area

At Livingston, in Polk County, Gem Oil Co.'s No. 1 Davis Holmes, old discovery well for the area, was deepened from 4,311 feet to 4,346 feet in sand and shale and completed for 57 bbls. of oil through one-quarter inch choke. It showed a tubing pressure of 3,200 pounds and 1,200 pounds casing pressure. Werby and others' No. 1 Dick & Failing, about 3 miles north of Livingston, was spraying between 10 to 15 bbls. of oil daily with total depth 4,344 feet. It was showing a tubing pressure of 1,500 pounds.

Chambers County

East of Analuac in Chambers County, Turnbull & Irwin's No. 1 Sudindorf, in the H.&T.C. Survey, Section 67, was drilling 2,100 feet. This is to be a 7,500-foot test.

Brazoria County

At Rattlesnake Mound in Brazoria County, Amerada Petroleum Corp.'s No. 1 Houston Farm Development Co., in the L. Bachelder Survey No. 156, was drilling 4,102 feet. Gillock Petroleum Co.'s No. 1 Frank Truksa, about 5 miles southeast of Alvin sand in the eastern part of the county, was rigging up.

Manvel Field

The eastern limits of the Manvel Field was partially defined during the past week when Texas Co.'s No. 2 Houston Oil Field Association failed to find production in either the Miocene or the deeper Oligocene. The well bottomed hole at 4,218 feet and will probably be abandoned. The well is just east of the most easterly producer. In the northeast part of the county, Stanolind Oil & Gas Co. is reported to have recently taken 120 acres northeast of Hastings and in the Snyder Survey, for a reported consideration of $350 cash and $650 out of oil. The company only recently shot this area with seismograph reflection.

Jefferson County

In Jefferson County, Sun Oil Co.'s No. 1 H. Long, in the John Blair Survey, was drilling below 7,491 feet in shale. In the northern part of the county, Turnbull & Irwin were rigging up on No. 1 Tolivar, 1,900 feet from N line and 1,400 feet from W line of the northwest corner of the Shadric Morris Survey.

Refugio County

At the newly discovered Tom O'Connor Field in Refugio County, Quintana and Humble's No. 2-A O'Connor was rigging up. Quintana and Humble's No. 1-B O'Connor had spudded. The discovery well, Quintana and Humble's No. 1 O'Connor, which opened the new producing area two weeks ago on a

(Continued on Page 150)

Wildcat Operations on Gulf Coast

Week Ending July 21

RACCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 3 Effie Kearns, 270 ft. W of E line, 825 ft. N of S line of 176-ac. lease in W. C. White Sur. Old T.D. 4,750 ft.; P.B. to 3,432 ft.; cmt. 7-in. csg.; T.D. 3,445 ft.; putting on pump.

Humble O. & R. Co.'s No. 3 McCasland. T.D. 4,135 ft., W.O.C.

Humble O. & R. Co.'s No. 6 M. R. Sherrod, 933 ft. E of W line, 466 ft. N of S line of W. C. White Sur. Location.

Humble O. & R. Co.'s No. 14 Roy Thompson, 466 ft. S of N line, 933 ft. E of W line of 253-ac. tract in W. C. White Sur. Location.

Humble O. & R. Co.'s No. 5-B Wilson. T.D. 4,491 ft.; abnd.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 6 Blakely & Winston. Coring shaley sand 2,014 ft.

Shell Pet. Corp.'s No. 3 Haury, 800 ft. SE of No. 2 in line with No. 2 and No. 1 Blakely-Winston, H.&T.B. Sur. No. 13. Drlg. hard shale and streaks lime 3,959 ft.

Shell Pet. Corp.'s No. 1 Schmitt, 318 ft. E, 107 ft. S of NW cor. of 140.7-ac. tract in J. H. Bruner Sur. Drlg. 2,010 ft.

DAMON MOUND—BRAZORIA COUNTY

Esco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D, Lot 5, A. Darst Sur. Drlg. lime and shale 1,165 ft.

H. Wisdom's No. 2 fee, A. Darst Sur., 50 ft. E W line and 200 ft. N of No. 1. Shale 1,120 ft.; S.D.

H. Wisdom's No. 3 fee, A. Darst Sur. Shale 130 ft.; no report.

H. Wisdom's No. 1 Proctor, 40 ft. out of SW cor., Blk. 1, A. Darst Sur. Drlg. lime and shale 1,020 ft.

MANVEL—BRAZORIA COUNTY

Max O. Miner's No. 1 H. F. Stipp, 220 ft. W of E line and 195 ft. N of S line of Lot 28, H.&T.B. No. 23 Sur. Location.

Texas Co.'s No. 11-B Belcher, 660 ft. S, 48 deg. 9 ft. E of B-10 and 330 ft. N, 41 deg. 51 ft. E of SW line of lease, H. N. Little Sur. Drlg. shale 4,441 ft.

Texas Co.'s No. 12-B Belcher, 194 ft. and 42 degrees 330 ft. N 48 degrees W from NE cor. of Helen J. Way lease in H. N. Little Sur. Location.

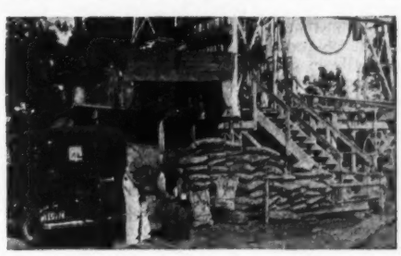
Texas Co.'s No. 2 Boft, 200 ft. N and 24 ft. W of S line and 330 ft. S 41 deg. 51 ft. E from NE line of Lot No. 7 in Charles O'Donnell Sur. Drlg. shale 4,522 ft.

Texas Co.'s No. 2 Ellis, 330 ft. S, 82 deg. 48 ft. W from E line, 330 ft. N 48 deg. 20 ft. W of SE line of lease in H. N. Little Sur. Drlg. shale 4,131 ft.

(Continued on Page 146)

COOL AS A DRAUGHT
from a mountain spring
Gottrool
WATER CANS
& COOLERS
With the GOTT Water Cooler handy, you will always be assured of a fresh supply of pure drinking water kept delightfully cool — it's health insurance...Order one from your supply store today!
Gott
H. P. GOTT MFG. CO., Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

COLOX PROVES GREAT HELP IN CONTROLLING HEAVING SHALE



OPERATORS have found that Colox is the ideal mud for drilling heaving shale. It makes mud of low viscosity and the desired weight. Builds a strong, thin wall; preventing free water from coming into contact with the formations. Colox stands up under chemical treatment.

Our Engineering Department is available to operators in all Gulf Coast fields of Texas and Louisiana. Also in West Texas and New Mexico. Let them help you with your mud problems.

manufactured under exclusive license by

Geo. S. Mepham Corp., 2001 Lynch Ave., East Saint Louis, Ill. for Mid-Continent and Gulf Coast areas and

C. K. Williams & Co., of California, Ltd., Shellmound Park, Emeryville for Pacific Coast area

Under U. S. Patents Nos. 1,575,944-5

COLOX

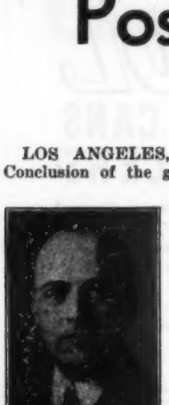
COLLOIDAL IRON OXIDE

Distributed by The Republic Supply Co., in the Mid-Continent and Gulf Coast areas

Strike Cut California Consumption 15 Per Cent; Possible New Field in Santa Maria District

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 23.—Conclusion of the general strike in the San Francisco Bay region and alleviation of conditions in other sections of the Pacific Coast was received by producers and marketers with considerable manifestations of joy during the week. The stalemate showed conclusively the important function of gasoline, fuel oil and lubricating oil in the general scheme of things and the contribution of these commodities to present-day life. Prolongation of the general strike in the San Francisco Bay region for another few weeks would have made it obligatory for the petroleum administrator to severely reduce California's allowable daily production of crude oil and impose a comparable reduction in refinery operations. The necessity for this drastic action is due to the fact that consumption of crude and refined oil was sharply reduced at several points along the Pacific Coast, especially in San Francisco and contiguous territory during the strike period and would soon have become intolerable unless crude oil production was brought into line. The disruption of trade was particularly serious to the petroleum industry because the stalemate was coincident with the normal peak demand.



It is roughly estimated that consumption was reduced about 15 per cent as a result of demoralized business and the paralysis of automotive transportation. It is quite obvious that the state's production of crude oil would have been cut back in August if the strike situation had not been adjusted, as refiners, unable to market gasoline and oil, would have found it necessary to store the unsold portion at refineries. The situation was further complicated through operation of the Pacific Coast Petroleum Agency as the restricted market left members of the agency holding the sack due to their inability to market in the entire territory. This condition would have been further intensified if marketers found it necessary to close down or restrict operations of refineries located in the San Francisco Bay region because of the inability to dispose of current production. Conclusion of the general strike found long lines of anxious motorists at service stations waiting their turn for service at many stations in order to begin their vacations or proceed with normal business.

Possible New Field

Although no authentic information is available, due to the refusal of the company to release any data, field reports indicate that the Union Oil Co. stands an excellent chance of opening up a new producing area in the Santa Maria district. The company is at present making a conclusive production test and the outcome of work should be available within the next week or 10 days. The wildcat in question is No. 1 Moretti in Section 24-10-34, north of Casmalia and south of Santa Maria. The wildcat is located on a 2,300-acre tract subleased a short time ago from A. N. Macrate, who has operated in Los Angeles Basin for a number of years. Macrate has extensive leases in the general area and it is logical to assume that Macrate and Union will jointly develop most of the productive area. No. 1 Moretti, which was bottomed at 2,389 feet and subsequently plugged back to 2,370 feet, is the second test drilled in this area as the first test was abandoned as a duster at 2,280 feet in April of this year. If the gravity of other oil produced in the general vicinity is any criterion, the Moretti well, if completed, should yield a crude averaging about 15 degrees A.P.I.

Ohio Oil Co. is believed to have proved the existence of a commercial gas field in the Buena Vista Lake district of Kern County as its test in that area was brought in flowing 8,000,000 feet of gas per day a week or so ago. The company has shut in the well after making a production test extending over a period of a week. During the production test the well was producing through a four-sixty-fourths-inch bean under a pressure of 1,930 pounds and since being shut in the pressure has jumped to a point well in excess of 2,000 pounds. This new gas well is located in the extreme western end of Buena Vista Lake in Section 31-31-26. It was originally drilled as an oil test but the company ran into mechanical trouble at 7,957 feet and was forced to back up. Before abandoning the hole the company decided to make a test of some rather good looking showings that had been logged during the course of work. The well was accordingly plugged back to 5,302 feet and brought in as a gas well. It is quite likely that the Ohio will drill another test in this area although it is safe to assume that the company will pass up the gas zone for the present in order to definitely determine the possibility of developing oil production.

Mountain View

Although the Mountain View Field of Kern County is not the most active field in the state, it is giving a good account of itself both from a drilling standpoint and compliance with curtailment regulations. This is particularly interesting in view of the fact that this field was severely penalized by the Central Committee of California Oil Producers when determining the allowable production during July. The allowable production of this field was reduced from 6,075 bbls. per day in June to 3,860 bbls. during July. Drilling operations in the field are showing a steady increase and development work is progressing at a conservative rate due to the absence of small holdings which would necessitate competitive drilling to offset requirements.

Gilmore-Snyder Oil Co. completed No. 1 Mulcahy in this field during the week and this well was brought in flowing 1,498 bbls. of 27.1 gravity oil per day from 5,495 feet after the hole had been finished with a 6⅝-inch liner, including 236 feet of perforated. The Union Oil Co. almost had a bad blowout this week when No. 1 Wible, in Section 23-30-38, blew out while crew was making a water shutoff test on the 8⅝-inch water string landed and cemented at 5,548 feet. Fortunately the crew was on its toes and brought the well under control within a short time. The top of the Santa Margarita was logged in this well at 5,554 feet and the kick shown indicates the probability that substantial production should be developed when the well is given a production test within the next few days. Hogan Petroleum Co. is rigging up a compressor on No. 3 Porter-Day, which was completed some time ago at 5,804 feet. There are two pipe lines in the Mountain View Field, one belonging to the Union Oil Co. and the other to the Standard Oil Co.

Montebello

The Standard Oil Co. finished another well in the Montebello Field of Los Angeles Basin during the early part of the current week and made normal footage in No. 75 Baldwin, which is projected for completion in the deep Santa Cruz zone. The Standard's new producer, No. 76 Baldwin, was finished in the upper zone at 3,770 feet and came in flowing 749 bbls. of clean 29.1 gravity oil and 634,000 feet of gas per day. The log shows an 8⅝-inch water string landed and cemented at 3,538 feet and the well completed with a 6⅝-inch liner carrying 248 feet of perforated and 3,617 feet of one-half-inch tubing. The Standard has finished several new wells in the upper zone in this field during the past six months and the satisfactory initial of each has encouraged the company to continue normal development of the shallow zones.

No. 75 Baldwin, the Standard's Cruz zone test, is expected to reach the top of the Cruz zone within 10 days. This is one of the most important deep wells under way in this field at present because it should definitely determine the importance of the Cruz zone from a productive standpoint. Heretofore, deep drilling has been centered around the edge of the structure and the outcome of this pioneer work has not been entirely satisfactory due chiefly to a troublesome water problem. Both the Universal Consolidated and the Texas Co. have encountered this water and consequently their respective tests have not been finished as commercial producers. No. 75 Baldwin of the Standard is located nearer the apex of the structure and it should therefore indicate conclusively whether the Cruz horizon is all that it is supposed to be.

Field men are not as optimistic over the possibilities of the Cruz zone as they were a few months ago, as operations of the Texas Co. and the Universal Consolidated tend to indicate the probability that this zone will be limited to the top of the structure. This opinion is based on drilling done around the edge of the structure in the extreme eastern end of the field and consequently the productive possibilities in the western section are more or less conjectural at present. The Fullerton Oil Co. is making splendid progress with its two projected deep zone wells on the McGinley property and the St. Helens Petroleum Co. is stepping right along with No. 6 Piuma & Briano, which is in close proximity to the Fullerton projects.

Dominguez

The Dominguez Field of Los Angeles Basin has taken on the aspect of a real oil field since the Union and Shell resumed normal development a little over a year ago due to lease requirements. Operators in this field have adopted the policy of drilling twin wells about 75 feet apart on the surface. This does not indicate intensive drilling, however, as one of the twins has been finished in the upper zones and the other in the lower horizons. Unlike early operations, operators salvage all drilling equipment upon completion of work with the result that producing wells are reduced to skeleton form and contain only necessary producing equipment. Until recently all production from this field has come from the Pliocene, but within the past few months the Union has completed a well producing from the Miocene and is drilling another down to rocks of the same age. The proving of the Miocene as productive in the Dominguez Field was merely a matter of drilling, as the company had determined this several years ago but did not release the information. This is one reason why the opinion has been expressed from time to time that the deep zones at Dominguez would ultimately become a factor of importance in future production. This prediction was

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 8		July 1			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	165,240	23,606	357,610	51,087	8,167,362	805,661
Diesel and gas oil	.....	.....	68,897	9,842	1,000,056	1,085,064
Gasoline	117,606	16,801	4,236	605	3,677,370	5,067,640
Kerosene	.....	.....	11,224	1,603	579,421	502,970
Asphalt	.....	.....	70,019	10,003	70,019	12,179
Other finished oil	.....	.....	10,588	1,513	25,759	42,814
Other unfinished oil	.....	.....	.....	.....	.....	72,584
Foreign exports—						
Crude oil	.....	.....	45,541	6,506	3,792,051	3,783,801
Fuel oil	237,693	33,956	146,866	20,981	6,584,693	4,081,559
Diesel and gas oil	59,654	8,522	38,163	5,452	2,195,514	1,932,774
Gasoline	64,166	9,167	100,392	14,342	2,151,517	3,442,474
Kerosene	30,125	4,303	21,753	3,108	1,061,392	1,020,864
Other finished oil	.....	.....	.....	.....	3,529	12,086
Other unfinished oil	.....	.....	58,798	8,400	186,069	34,574
Coastwise-domestic—						
Crude oil	.....	.....	.....	.....	4,739,656	4,456,650
Fuel oil	214,975	30,711	49,741	7,106	4,765,538	5,474,690
Diesel and gas oil	1,452	208	.....	.....	287,221	756,362
Gasoline	367,526	52,504	269,180	38,454	5,651,719	6,435,239
Kerosene	.....	.....	.....	.....	81,472	108,615
Naphtha distillates	.....	.....	.....	.....	.....	27,651

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Fuel oil	.....	.....	.....	.....	110,650	.....
Diesel and gas oil	.....	.....	.....	.....	448,113	280,531
Gasoline	.....	.....	.....	.....	145,806	571,072
Kerosene	.....	.....	.....	.....	276,412	482,430
Lubricants	.....	.....	8,169	1,167	26,500	24,366
Foreign exports—						
Crude oil	.....	.....	151,742	21,677	1,005,073	999,943
Fuel oil	21,743	3,106	112,712	16,102	974,247	361,366
Diesel and gas oil	.....	.....	103,750	14,821	218,970	534,718
Gasoline	76,101	10,873	59,760	8,537	1,864,213	2,311,554
Kerosene	10,894	1,556	96,861	13,837	510,089	552,019
Lubricants	.....	.....	17,349	2,478	89,744	76,905
Other finished oil	.....	.....	.....	.....	2,760	3,745
Other unfinished oil	.....	.....	.....	.....	5,750	19,166
Coastwise-domestic—						
Fuel oil	219,408	31,344	258,715	36,959	2,320,541	1,742,254
Diesel and gas oil	.....	.....	4,758	680	100,129	166,162
Gasoline	60,889	8,698	134,324	19,189	1,979,662	1,914,233
Kerosene	.....	.....	9,352	1,336	57,464	72,619

practically a sure shot, notwithstanding that the history of the Union's deep exploratory well has not been generally known.

During the current week, the Union recompleted No. 13 Callender, doing 134 bbls. of clean 31.9 gravity oil per day on a gas lift after the well had been redrilled and deepened to 4,840 feet and the company should finish two more potential producers within the next 15 days. Three additional wells are being prepared for early spud and the three should be under way shortly. The Shell's next completion in this field should be No. 55 Reyes, as this project is at present rotating in the pay at 5,307 feet. Republic Petroleum Co., which has experienced considerable success in its drilling operations around the edge of the Dominguez structure, has resumed work on No. 5 Childs and will make a further effort to exclude water from the hole. The Republic Petroleum has been obliged to use the utmost perseverance in its work in this field due to edgewater conditions and much of the success it has achieved is due to the careful use of Baker cement equipment.

Inglewood

Pacific Western Oil Co. is believed to have proven the possible existence of a fourth oil zone in the Inglewood Field of Los Angeles Basin as the oil sand picked up last week is still present in No. 17 Rubel at 4,500 feet. This well was started down as an exploratory test for the primary purpose of determining the productive possibilities of the Miocene rocks in this field. The company is not releasing any geological data and the exact status of the well is not known with respect to the formation encountered and geologic age of rocks penetrated to date. It is safe to assume, however, that the Miocene in this field will ultimately be found highly productive. The Shell Oil Co. has finished No. 16 Rindge, in the Rindge zone, which was brought in flowing 1,059 bbls. of clean 28.1 gravity oil per day from 3,187 feet. The Standard is building rigs for two new wells in this field and is making preparations to finish No. 105 Baldwin which came in wet a week or so ago.

The possible proving up of two additional zones in the Inglewood Field justifies the belief of operators that this district will be one of the most productive fields in Los Angeles Basin from an economic standpoint. The productive zones are located at a relatively shallow depth and while the field may not produce as much oil as some of the other prolific areas which were intensively developed, the economic return should be much greater due to the smaller amount of drilling and lower development costs.

Huntington Beach

The Huntington Beach Townsite Association, which has been in the process of organization and formation for a number of months, has at last become a reality and its existence should smooth over a lot of the rough spots. The association is composed of 45 operators who have during the past year or two engaged in exploitation of the state tidelands adjoining the Huntington Beach Field which has caused so much litigation. Two funds will be established by the association by levying an assessment against current production. One of the funds will be for the purpose of providing money for operating expenses and the other will be an indemnity fund of $100,000 from which will be paid awards for damages or injury to owners of lands lying between the town lot section and the tidelands. Under the agreement the association will assess its members 5 per cent of their production, out of which 4 per cent will be paid to the Oil Producers Protective Association to discharge obligations of members to that body for its work during negotiations between the state and operators in connection with tideland development. The remaining 1 per cent will go to the operating fund to provide ample finances for current operations. One of the most important points of the agreement is that each member agrees to grant the association permission to take physical control of any well in case of salt water encroachment and to make corrective work necessary or abandon the hole if deemed necessary. Drilling operations have been reduced to a minimum in the Huntington Beach Field and within a short time there will be only a few incompleted drilling projects under way.

Santa Fe Springs

The Union Oil Co. added a new well to its list of producers in the Santa Fe Springs Field this week, but the initial production was somewhat of a disappointment as the well was good for only 74 bbls. of relatively clean 33.4 gravity oil per day from 5,768 feet after the hole had been completed with a 6⅝-inch liner carrying 148 feet of perforated. Santa Fe Springs operators are showing renewed vigor and are undertaking corrective work on a number of old producers in addition to starting several new wells. Continental Oil Co. has finally finished No. 32 Bixby in the Seal Beach Field, but this well failed to come up to expectations. It has been drilling for several months and ran into grief due to mechanical trouble and bottom water. As a last resource the company plugged back from 8,582 feet to 5,314 feet and finished it on a compressor doing 63 bbls. of clean 27.6 gravity oil per day.

In the Long Beach Field, Exeter Oil Co. recompleted No. 1 Clark after plugging back the hole from 5,964 feet to 4,890 feet and returned it to production pumping 123 bbls. of 27.1 gravity oil cutting about 20 per cent water. The Union Oil Co. has spudded in No. 6 Del Rey, in the Playa Del Rey Field of Los Angeles Basin, and this project should be finished about the middle of September. The Union's last completion in this field was No. 5 Vidor, and this well is still flowing 270 bbls. of very clean 23.2 gravity oil per day under a casing pressure of approximately 750 pounds. Its production could be substantially increased by opening the bean, but the Union is not desirous of building up a

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Staus—
General Pet., No. 9 Capitan, Santa Barbara Co.	32-	5-	30	2,671	Sespe drilling
Petroleum Sec., No. 1 Los Alamos, Santa Barbara Co.	6-	7-	32	....	building rig
Shell Oil Co., No. 3 Capitan, Santa Barbara Co.	32-	5-	30	1,048	sd. sh. drilling
Fields, O. C., No. 1 Casmalia, Santa Barbara Co.	13-	9-	35	1,500	pump 50 B/D
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18-	7-	34	3,000	bl. sh. drilling
Barnsdall-Rio Grande, No. 8 Doty Elwood, S. Barbara Co.	15-	4-	29	5,925	O. S. drilling
Signal Oil & Gas Co., No. 2 Elwood, Santa Barbara Co.	tideland			5,415	suspended
Signal Oil & Gas Co., No. 3 Elwood, Santa Barbara Co.	tideland			69	suspended
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14-	4-	29	2,512	reaming
Advance Pet. Co., No. 1 Naples, Santa Barbara Co.	7-	4-	29	5,134	suspended
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	20-	4-	28	1,215	hd. sh. drilling
Standard Oil Co., No. 2 Goleta, Santa Barbara Co.	17-	4-	28	3,038	hd. sd. drilling
Hastain & Stone, No. 1 Goleta, Santa Barbara Co.	9-	4-	28	2,701	suspended
Union Oil Co., No. 2 Santa Maria, Santa Barbara Co.	24-	10-	34	2,389	bailing
Richfield Oil Co., No. 1 Rincon, Ventura Co.	17-	3-	24	2,607	rig compressor
Woodrow Pet., No. 1 Rincon, Ventura Co.	4-	3-	24	7,612	redrilling
Continental, No. 3 San Miguelito, Ventura Co.	1-	4-	19	1,068	**hd. sh. drilling**
Texas Co., No. 128 South Mountain, Ventura Co.	4-	3-	19	rig	rigging up
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1-	4-	19	1,068	hd. sd. drilling
Piru Oil Co., No. 1 Piru, Ventura Co.	14-	4-	18	750	cemented
Pac. Dev. Co., No. 1 Santa Susana, Ventura Co.	12-	2-	18	rig	rigging up
Williamson & Donaher, No. 1 Simi, Ventura Co.	36-	3-	18	1,016	cleaning out
American Drlg. Co., No. 1 Simi, Ventura Co.	6-	2-	17	401	sd. sh. drilling
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24-	3-	23	4,570	sd. sh. drilling
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21-	4-	22	1,989	hole caving
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22-	4-	21	2,130	reaming
Las Posas Pet., No. 1 Las Posas, Ventura Co.	23-	3-	20	7,370	suspended
International Oil Developers, No. 1 Conejo, Ventura Co.	33-	2-	20	3,068	suspended
Shell Oil Co., No. 1 Gould Hills, Kern Co.	21-	29-	21	5,250	abandoned
Standard Oil Co., No. 1 McKittrick, Kern Co.	15-	30-	22	3,501	sd. sh. drilling
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-	28-	20	4,982	will deepen
General Pet., No. 1 South Belridge, Kern Co.	30-	28-	21	11,377	fish. tubing
Union Oil Co., No. 18 North Belridge, Kern Co.	36-	27-	20	7,824	recemented
Standard Oil Co., No. 1 North Belridge, Kern Co.	36-	27-	20	4,528	cleaning out
Associated Oil Co., No. 1 Lost Hills, Kern Co.	2-	26-	20	7,868	reaming
Caravel Pet., No. 1 Edison, Kern Co.	19-	30-	30	1,925	plug bottom
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-	30-	28	6,457	suspended
Mountain View Dev. Co., No. 1 Mountain View, Kern Co.	12-	30-	28	4,350	cleaning out
Gilmore Oil Co., No. 1 Mountain View, Kern Co.	24-	30-	28	5,360	S'ta Margarita
Union Oil Co., No. 2 Mountain View, Kern Co.	23-	30-	28	5,580	reaming
Union Oil Co., No. 3 Mountain View, Kern Co.	15-	30-	28	4,265	sd. sh. drilling
General Pet., No. 1 Mountain View, Kern Co.	14-	30-	28	1,180	drill out cmt.
Barnsdall, No. 2 Mountain View, Kern Co.	32-	30-	29	1,034	sd. sh. drilling
Hogan Pet., No. 5 Mountain View, Kern Co.	32-	30-	29	3,914	sd. sh. drilling
Standard Oil Co., No. 1 Mountain View, Kern Co.	19-	30-	29	5,843	cleaning out
Hoyt, Otis, No. 1 Mountain View, Kern Co.	19-	30-	29	3,671	sd. sh. drilling
Shell Oil Co., No. 1 Mountain View, Kern Co.	30-	30-	29	1,052	sd. sh. drilling
Monterey Exploration, No. 2 Edison, Kern Co.	22-	30-	29	1,382	sd. sh. drilling
Jergins Trust, No. 1 Edison, Kern Co.	22-	30-	29	1,902	sd. sh. drilling
Jergins Trust, No. 2 Edison, Kern Co.	14-	30-	29	rig	suspended
Shell Oil Co., No. 1 Edison, Kern Co.	16-	30-	29	rig	rigging up
Barnsdall, No. 1 Edison, Kern Co.	26-	30-	29	mtl.	building rig
Commanche Oil Co., No. 1 Commanche, Kern Co.	15-	32-	29	3,901	sd. sh. drilling
Tejon Ridge Oil Co., No. 1 Commanche, Kern Co.	23-	32-	29	412	suspended
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-	11-	19	6,000	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	28-	12-	11	4,004	cleaning out
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-	12-	11	6,138	suspended
G. E. Dev. Co., well No. 1, Fresno Co.	36-	16-	14	rig	rigging up
Western Gulf, No. 1 S.P., Fresno Co.	15-	17-	15	8,868	cleaning out
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-	21-	16	10,944	pull 7-inch
Texas Co., No. 1 Alcalde, Fresno Co.	1-	21-	14	1,050	Kreyenhagen
Farrel Pet., well No. 1, San Luis Obispo Co.	18-	31-	12	1,091	sd. sh. drilling
Willett Oil Co., No. 2 Cholame, San Luis Obispo Co.	10-	26-	15	1,273	sd. sh. drilling
Commonwealth Consd. Gas Co., No. 1 Tulare Lake, Kings Co.	21-	22-	20	1,670	sd. sh. drilling
Commonwealth Consd. Gas Co., No. 2 Tulare Lake, Kings Co.	21-	22-	20	rig	portable outfit
Armadillo Oil Co., No. 1 Tulare Lake, Kings Co.	32-	22-	20	1,760	test W.S.O.
Tulare Basin Oil Co., No. 1 Tulare Lake, Kings Co.	2-	23-	19	1,192	suspended
Kettleman Pac. Oil Co., No. 1 Tulare Lake, Kings Co.	11-	23-	16	903	sd. sh. drilling
Weller, Carl, No. 1 Tulare Lake, Kings Co.	11-	23-	16	900	sd. sh. drilling
Trico Oil & Gas Co., No. 1 Atwell, Kings Co.	33-	24-	22	2,600	sd. sh. drilling
Douglas, J. M., well No. 1, Monterey Co.	36-	22-	9	4,097	br. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-	12-	3	6,760	suspended
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-	16-	1	2,721	gas, shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-	16-	1	4,250	andesite
Milham Exploration Co., No. 1 Tracy, San Joaquin Co.	5-	4-	5	5,800	test W.S.O.
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-	10-	14	5,140	sd. sh. drilling

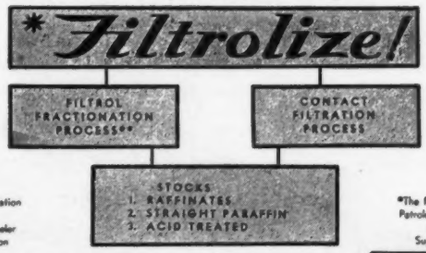
Give us
THE BALL

The back who begs to carry the ball has *confidence*. He feels that, given a chance, he can make yardage. Filtrol engineers have the same *confidence*. All they ask is the opportunity of proving that Super-Filtrol does what they claim.

Today, Super-Filtrol is the best activated adsorbent that Filtrol Company has ever made and they are constantly seeking to improve it.

When high quality specifications are required in a lube oil, with less cost per gallon of oil treated, your consideration of Super-Filtrol is recommended. Super-Filtrol is assisting many refiners to produce lube oils more economically to desired color, demulsibility, neutrality, Conradson carbon, color stability and bloom. Filtrolize during fractionation or by contact.

FILTROL COMPANY OF CALIFORNIA
1755 Downey Road, Los Angeles



Super-Filtrol is prepared to meet the most exacting requirements of petroleum engineers, as an adsorbing and decolorizing medium. Produced under the most rigid laboratory and technical control.

SUPER FILTROL
IS TODAY THE MOST EFFICIENT ACID-ACTIVATED CLAY IN THE WORLD

large current production. Wilshire Oil Co. is running a formation tester in No. 2 Potrero, a deep well which the company is drilling in the Potrero Field, and the outcome of this test at 7,548 feet should be available within the next few days.

Ventura Avenue

Associated Oil Co. should finish a new well in the deep 57 zone in the Ventura Avenue Field within the next 30 days as No. 133 Lloyd was down 9,102 feet a few days ago. The company is reaming the hole preparatory to landing a string of casing at approximately 9,000 feet. This well should be completed at about 9,750 feet and substantial production expected. Associated Oil Co. proved the existence of commercial production in the deep 57 zone in this field back in 1931, but operators have refrained from developing it as neither the Associated nor Shell needed the additional production which would result from development. The Associated's discovery well, No. 57 Lloyd, was completed flowing 4,850 bbls. per day from 8,823 feet in April, 1931. Associated followed up this completion by finishing No. 83 Lloyd doing 5,500 bbls. daily from 9,709 feet in July, 1932, and recompleted it a week or two later flowing 6,270 bbls. per day after the hole had been cleaned out. No. 15-A Barnard of the General Petroleum looked like a big well on a preliminary production test in the deep 57 zone from 9,000 feet but the output, 7,000 bbls. per day, showed such a high cut that the company plugged back by stages in an effort to exclude the bottom water. This well was finally completed flowing 2,805 bbls. per day from 8,372 feet in January, 1934, after the hole had been plugged back and tested from time to time. The General Petroleum is working on another projected deep zone completion but this project, No. 13 Notten, is not deep enough to pick up the pay. The Associated is expected to finish No. 27 V.L.&W. in the deep 57 zone, but this well has another 1,500 feet to go before reaching the depth at which production should be secured. Shell's No. 77 Taylor, scheduled for completion in the 57 zone, looks promising at 9,357 feet and since the company has only a few hundred feet of hole to make this new well should be tanking oil within the next 30 days.

Elwood

The Barnsdall and Rio Grande, which are jointly developing several properties in the Elwood Field of Santa Barbara County, should finish No. 8 Doty in the deep Sespe formation within the next 30 days, as the well is rotating in the pay at 5,050 feet. This project was held up for a long time because of mechanical trouble, but the Barnsdall, which is doing the actual drilling, succeeded in recovering the fish and resuming work. No. 9-B on tideland permit No. 88 came in wet a week or so ago and the company is running a water witch in order to determine where the water is entering the hole. The Pacific Western Oil Co. is making preparations to complete No. 12 on tideland permit No. 92 in the Vaqueros formation at 3,244 feet. This and other recent completions in the Elwood Field are, however, being finished with casing sufficiently large to permit subsequent deepening operations when operators decide to exploit the underlying Sespe formation.

Kettleman Hills

Standard Oil Co. finished another well in the Kettleman North Dome Field during the early part of the current week when No. 4-27-J was brought in flowing 8,987 bbls. of clean 37.1 gravity oil and 13,339,000 feet of gas per day. This well, bottomed at 8,196 feet but plugged back to 7,920 feet, was finished with a 5½-inch liner including 65 feet of perforated. Both the Standard and Kenda have several new wells scheduled for completion within the next 60 days and the potential daily production of this field should be further increased. The Superior Oil Co. is expected to make a production test on No. 8 Huffman within the next 30 days as this well is within a few hundred feet of completion. This will complete the Superior's drilling program involving the 160-acre Huffman lease. Union Oil Co. is drilling two new wells on the Ameranda-King lease in the western end of the field and has taken out a drilling permit for No. 8 King. Nos. 6 and 7, now below 6,500 feet, should be completed about the end of September, and No. 8 should be finished by Christmas. Upon the completion of these three wells the Union will have complied with lease requirements and fulfilled its obligations to the curtailment program, which limits drilling operations to one well to each 20 acres. The Middle Dome Corp. has reached 6,960 feet in a test which is being drilled by the Petroleum Securities in the Middle Dome of Kettleman Hills, but this well still has some distance to go before reaching the depth at which production is expected to be developed.

Notable Half Year in Michigan Fields

(Continued from Page 32)

Isabella County, and is starting a $250,000 drilling campaign.

On the first anniversary of the big Porter Pool toward the latter part of February there were 140 producing wells with an aggregate potential of more than 100,000 bbls.

During the past six months the Pure Oil Co.'s No. 2 F. E. Rosa, NE SE NW Section 21, making 6,000 bbls. a day, and McClanahan Oil Co.'s No. 2 Breu, SE SE NE Section 20, making 5,000 bbls., were among the larger initial producers.

The Michigan proration schedule varied from 12 per cent of potential above a minimum exemption of 100 bbls. a day to as low as 2 per cent over 100 bbls., back to 7 per cent and then to 5 per cent over a lesser minimum of 75 bbls. a day as potential continued to rise until it reached a point more than five times the allowable as of July 1. Federal allowable was increased from 29,000 to 33,200 bbls. a day in monthly boosts.

A total of 224 permits were issued during the six months compared with 139 for the corresponding period in 1933.

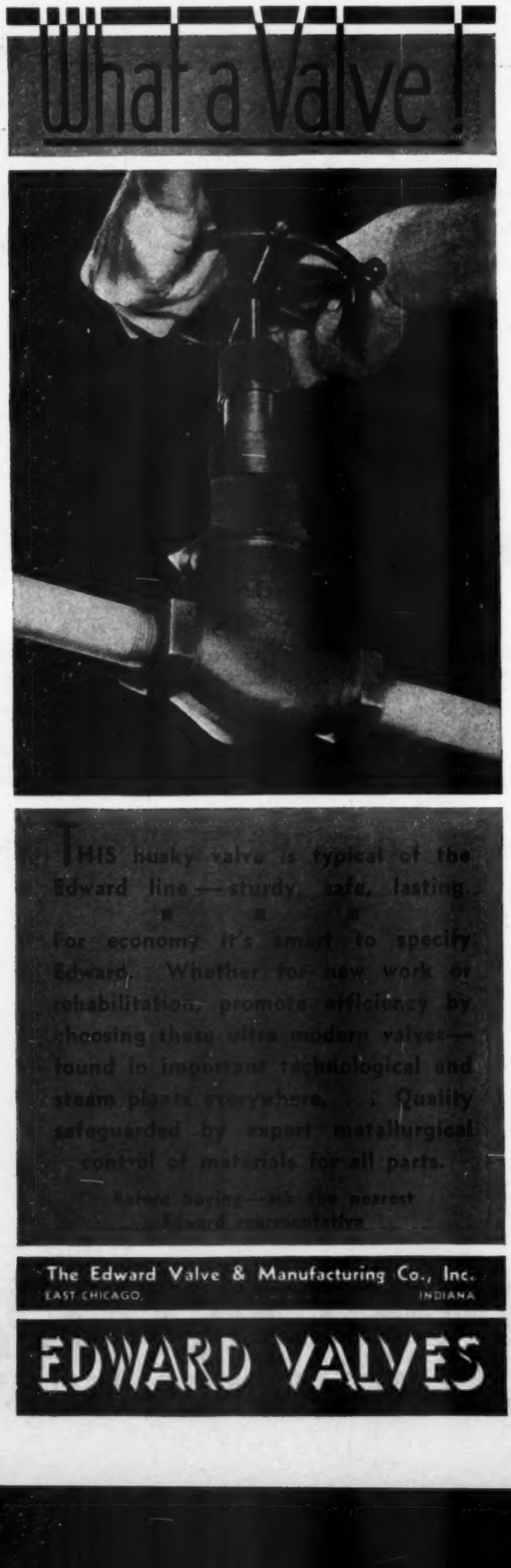
OTTAWA, KANS., RATE

OTTAWA, Kans., July 23.—The Ottawa city commissioners are considering a municipal gas distribution plant as the result of the refusal of the Union Public Service Co. to consider a city proposal for lower rates. Mayor Edmund Lister, Commissinoer H. E. Rogers and City Engineer W. O. Myers recently visited Paola and Osawatomie investigating their systems.

The present company offers a counter proposal of a sliding price scale and also offers to pass to the consumer most of the saving from purchase of gas from a Franklin County field.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Vanco Dev. Co., No. 1 Artesia, Los Angeles Co.	25-	3-	12	rig	suspended
Clayton, G. L., No. 1 Cerritos, Los Angeles Co.	31-	3-	12	6,552	resume work
Woodward Oil Co., No. 1 Athens, Los Angeles Co.	12-	2-	14	4,152	sd. sh. drilling
Sherman, John, No. 1 Athens, Los Angeles Co.	2-	2-	14	....	location
Houser, G. W., No. 1 Athens, Los Angeles Co.	18-	2-	13	4,037	cable tools
Quinn, J. B., No. 1 Domingues, Los Angeles Co.	3-	4-	13	4,587	plug 4,300
Wehrman, J. K., No. 1 San Pedro, Los Angeles Co.	14-	5-	14	1,653	resume work
Nudson, T. T., No. 1 Inglewood, Los Angeles Co.	17-	2-	14	3,020	plug 2,370
Baldwin Oil Co., No. 1 Inglewood, Los Angeles Co.	7-	2-	14	6,200	pump water
Scientia Oil Co., No. 1 Inglewood, Los Angeles Co.	7-	2-	14	3,806	cemented
Pacific Western, No. 1 Inglewood Deep, Los Angeles Co.	8-	2-	14	4,501	O. S. drilling
Plymouth Oil Co., No. 1 Inglewood, Los Angeles Co.	8-	2-	14	5,225	sd. sh. drilling
Wilshire Oil Co., No. 2 Potrero Deep, Los Angeles Co.	27-	2-	14	7,557	sd. sh. drilling
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34-	1-	11	7,447	suspended
Universal Consd., No. 1 Montebello Deep, Los Angeles Co.	5-	2-	11	7,505	production test
Universal Consd., No. 2 Montebello Deep, Los Angeles Co.	5-	2-	11	6,950	suspended
Universal Consd., No. 3 Montebello Deep, Los Angeles Co.	5-	2-	11	7,680	suspended
Texas Co., No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	6,943	tested wet
Standard Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	6,320	hd. sd. drilling
St. Helens, No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	5,211	sd. sh. drilling
Fullerton Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6-	2-	11	4,202	hd. sh. drilling
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30-	2-	9	3,064	cleaning out
Barstow Oil Co., No. 1 Saugus, Los Angeles Co.	35-	5-	16	2,136	suspended
Barstow Oil Co., No. 2 Saugus, Los Angeles Co.	35-	5-	16	121	sd. drilling
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34-	5-	16	2,264	sd. sh. drilling
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland			3,985	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29-	6-	10	6,455	cleaning out
Bradford, W. G., No. 1 Newport, Orange Co.	19-	6-	10	....	drive piles
Platt & Collins, No. 1 Costa Mesa, Orange Co.	14-	6-	10	1,400	sd. drilling
Mid-Rich Drlg. Co., No. 1 Atwood, Orange Co.	26-	3-	9	2,131	sd. sh. drilling
Union Oil Co., No. 1 Coyote, Orange Co.	22-	3-	10	4,715	sd. sh. drilling
Bridger, J., No. 1 Coyote, Orange Co.	15-	3-	10	3,703	repair mach.
Severns Drlg. Co., No. 3 Coyote, Orange Co.	24-	3-	11	4,032	sd. sh. drilling
Great American Pet., No. 1 Chino, San Bernardino Co.	18-	2-	8	2,642	suspended
Great American Pet., No. 2 Chino, San Bernardino Co.	18-	2-	8	3,100	fishing D/P
Tehama Pet., No. 1 Santa Ana Canyon, San Bernardino Co.	33-	2-	8	2,021	sd. sh. drilling
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-18-		2	4,062	to set pipe


What a Valve!
THIS husky valve is typical of the Edward line — sturdy, safe, lasting.
For economy it's smart to specify Edward. Whether for new work or rehabilitation, promote efficiency by choosing these ultra modern valves — found in important technological and steam plants everywhere. . . . Quality safeguarded by expert metallurgical control of materials for all parts.
Nature buries — ask the nearest Edward representative
The Edward Valve & Manufacturing Co., Inc.
EAST CHICAGO, INDIANA
EDWARD VALVES

Montcalm-Mecosta County Trend Chief Interest in Developments in the Michigan Districts

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., July 23.—The rapidly developing Montcalm-Mecosta County trend west of the Mount Pleasant area drew the spotlight in Michigan last week when two wells were drilled into the upper Traverse with shows of oil and gas and a third into the Michigan sands with a flow of 4,500,000 feet of gas.

Old Dutch Oil & Gas Co. struck gas at 1,248 feet in No. 1 Forgar, NE SE NE Section 11-12n-7w, Belvidere Township, Montcalm County, about 5 miles west of the three completed upper Traverse oil wells in the Home Township Pool. At 7 feet in, or 1,255 feet, it gauged 4,500,000 feet potential daily open flow. Gas was struck about 7 feet higher than in the Daily Crude Oil Co.'s No. 1 H. P. Christensen, Section 10, Home Township, the discovery well of the Montcalm Pool, so operators were undecided whether to complete the Forgar for gas or continue to the upper Traverse for oil.

Theodore Oil Co.'s No. 1 John Sherwin, SW SW SW Section 13, Home Township, a semiwildcat, with only a light show of oil and gas, is being drilled to the Dundee.

Taggart Brothers, Inc.'s No. 7, on the J. M. McKeough lease, C SW Section 2-14n-9w, Austin Township, Mecosta County, proved a failure when drilled into the Michigan sands with a full-sized bit after showing for an estimated 1,500,000 cubic feet a day when core tested the week before. Michigan sand was topped at 1,319 feet with gas showing from 1,321 to 1,331, or 10 feet. The drill ran into water at 1,332 feet and the hole was plugged back to 1,327 feet and shot with 50 pounds but failed to gauge more than 50,000 feet a day. It was plugged and abandoned. The rig was moved and drilling started on No. 8 on the Fen Johnson lease, C NW Section 4-14n-9w, about half a mile northwest of the record No. 4 Robert S. Fish brought in last January making 34,000,000 feet a day, and a mile due north of No. 7 well, in which the formation was reported too tight to produce.

New Producers

Six new oil producers and an acid treated well added more than 5,300 bbls. of new initial last week.

McClanahan Oil Co.'s No. 3 Norman Breu, NW SE NE Section 20-13n-1w, Porter, made 120 bbls. an hour and was estimated good for 2,000 bbls. a day. J. S. Braden's No. 1 J. T. and Hazel McCallum, NW SE SE Section 20, topped Dundee at 3,380 feet and drilled to 3,430 feet for an estimated flow of 1,200 bbls. a day. Pure Oil Co.'s No. 8 Mina Narmore, SE NW SE Section 16, flowed 128 bbls. in eight hours and was estimated good for 300 bbls. at 3,433 feet. Pure's No. 4 Everett Kleinhans, SE SW NE Section 20, was a 50-bbl. well when drilled into water at 3,442 feet after striking Dundee oil at 3,436 feet. It was plugged back to be treated. George Hanner's No. 4 Hathaway, NW SW NE Section 17, was increased from 120 to 1,769 bbls. a day potential, or 1,649 bbls. by treatment.

Vernon-Isabella

Tri Oil Co.'s No. 3 Icem C. Slentz, NE NE NE Section 22-16n-4w, Vernon Township, Isabella County, was estimated good for about 50 bbls. a day at 3,800 feet. W. Hunter Atha's B No. 1 William Mahar, C SW SW Section 25, also Vernon, made 1,000,000 feet of gas from the Michigan sands at 1,352 feet.

Morris-Van Keuren's No. 2 Bowman Estate, SE NE NW Section 27, was dry and abandoned. D. F. Jones' No. 1 Chester W. Swan, SW SW SE Section 1-14n-6w, Broomfield Township, Isabella County, was dry and abandoned in the Michigan sands. Sun Oil Co. abandoned its No. 1 Stephen Vallender, C SW NE Section 11-15n-1e, Lincoln Township, Midland County, at the red rock because it was running low on structure. McClanahan Oil Co. temporarily abandoned No. 1 J. Demski, Jr., SW SW NW Section 27-15n-3w, Denver Township, Isabella County. Pure Oil Co.'s A No. 3 Joe Novak, SE SE SE Section 7-14n-2w, Greendale Township, Midland County, made 130 bbls. initial in the Dundee at 3,577 feet.

McClanahan Oil Co. was drilling more than 50 feet in the upper Traverse in No. 1 David Frackleton, Section 18, Clare County, the only active test in the county. It will be carried to the Dundee if unsuccessful in the Traverse. Wittmer Oil Co.'s No. 1 Archer in Section 11, Isabella Township and County, was drilling below 3,000 feet and expected to complete in the Dundee this week. McClanahan Oil Co. was rigging up for No. 1 Sweeney, Section 33, Denver Township, Isabella County.

Two tests were active in Sherman Township. Youmans-Dalton Oil & Gas Co. was drilling below 500 feet on No. 1 Wheelock, Section 11, while Sherman Drilling Co. was driving pipe for No. 1 Carrothers, Section 32.

New Locations

Eleven new permits were issued, five on wildcat locations. Two were for Oregon Township, Lapeer County, in southeastern Michigan, where a new play has been started by completion of three Berea oil wells recently. They are: Lawrence P. Mytinger's No. 1 George Zimmer, NW SW SE Section 4-8n-9e, and William C. Sowell's No. 1 F. Schmelpfening, NW SW SW Section 2, same township.

Smith Petroleum Co. took out a permit for a new Saginaw County test, No. 1 John Clement, SE SE SE Section 8-11n-3e, Swan Creek Township.

M. F. Whitehill, Sr., received a permit for his No. 1 Omer Kintner, C S half NW NW Section 11-17n-2w, Beaverton Township, Gladwin County. John F. Harley, trustee's No. 1 James H. Van Pelt, NW NW NE Section 35-8n-2e, is another new south central Michigan location in Rush Township, Shiawassee County.

Pure Oil Co. took out a permit for No. 1 Della Tenney, SE SW SE Section 2-12n-6w, Home Township, Montcalm County.

Four other permits were for new locations in Porter Township, Midland County: Pure Oil Co.'s No. 9 Mina Narmore, SW NE SE Section 16-13n-1w, and No. 3 C. D. Alexander, NE SW SE Section 18; Fred W. Stork's No. 4 W. C. Breu, SW NE SE Section 20, and McClanahan Oil Co.'s No. 5 G. R. Hathaway, NW SW NE Section 17.

Allen Park Oil Co. moved in for No. 1 Stephens, Section 36, Home Township, on leases acquired by C. A. Robbins and R. C. Gordon of Mount Pleasant. J. C. Arthurs will drill the test to the Dundee.

A new location also was reported in the NE NW Section 17-17n-4e, Pinconning Township, Bay County, about 10 miles north of a well now drilling near Kawkawlin by Weber Oil Co. There is some belief in the possibilities of another producing fold between the West Branch, Ogemaw and the old Saginaw structures.

Material was being moved in for an east offset to Harris-Bond well in Section 7, Porter Township, which recently was increased from comparatively small production to about 1,300 bbls. a day with treatment. It will be drilled on a Bond lease by Union Petroleum Co.

A new Gratiot County test will be started soon in Elba Township by Itha Oil & Gas Syndicate.

New Production Ruling

With daily potential continuing to increase over the record high point of 180,436 bbls. as of July 1, a new ruling limiting the amount of oil to be taken from wells drilled on small plots of ground has been issued by the Michigan Producers Proration committee. Under the new plan the amount of oil to be produced will be based not only on the potential open flow but also on the acreage.

"Adjustment for well spacing shall be made on the basis of the recognized spacing pattern for each pool with a view of equitably reducing the allowable production as regulated on the specific field allowable and likewise reducing the excess potential from wells drilled on acreage less than the regular spacing pattern followed in the particular field to such extent as the committee, from the facts and surrounding circumstances in each case, deem equitable and just," the ruling stated.

Twenty-nine Completed in Central West; Improved Results in Kentucky Field

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, July 23.—Twenty-nine wells were reported from the Central West Field for the week, eleven oil producers with an initial of 880 bbls., ten gas wells and eight dry holes.

In the Lima Field, near Elmore, Ohio, Charles Shelly, agent's No. 2, on the William Kuhlman farm, Section 14, Harris Township, Ottawa County, produced an initial of 9 bbls. from the Trenton lime at a total depth of 1,296 feet.

In Wyandot County, Gregg and others' test on the David Gibson farm, Section 32, Tymochtee Township, was dry at a total depth of 1,359 feet. Wyanco Oil & Gas Co.'s test, on the David Fernbaugh farm, Section 2, Crane Township, produced 10 bbls. initial.

In Seneca County, Tiffin Oil & Gas Co. is due to complete its test on the Frank Sherger farm, Section 32, Liberty Township. R. E. Greene is still working on his No. 3 T. C. and B. G. Shaull farm, Section 30, same township.

Three wells are under way in Hardin County: Kenton Oil & Gas Co.'s No. 1 John McMahan farm, Section 17, Pleasants Township; Cottonwood Oil Co.'s No. 2 C. L. and S. A. Sinift farm, Section 11, Marion Township, and Claridon Oil Co.'s test on the H. C. Harnhart farm, Section 11, Claridon Township.

In Wyandot County, Wood and others are reported shut down at 1,300 feet on the Edward Orton farm, Section 22, Pitt Township, and Cessna & Feasel are shut down at 1,457 feet in No. 1 Thomas Bowman farm, Section 22, same township. In Crane Township, Jones & Coyle are drilling No. 8 Margaret Brillhardt farm, Section 28, and Dempsey and others are shut down on the S. P. Hooper farm, Section 7.

In Van Wert County, Elmer Caudill is drilling No. 1 Mary B. Sheets farm, Section 30, Jackson Township, and Jackson Oil Co. is drilling No. 1 William F. Pangle, Section 29, same township.

In Mercer County, Petro-Producing Corp. is drilling No. 2 C. S. and Vesta E. Lemunyon farm, Section 35, Butler Township.

CENTRAL OHIO

In Ashland County, Ohio Fuel Gas Co.'s No. 1-5,822, on the A. and M. Shafer farm, Section 12, Vermillion Township, was dry at a depth of 2,736 feet. In Lake Township, Robison and others' No. 2 A. J. McClure farm, Section 10, shows 1 bbl. and some gas. In Mohican Township, Kenova Oil & Gas Co.'s No. 6 Mahlon Drusbell farm, Section 16, produced 2 bbls. and some gas in the Berea sand at 547 feet. Ohio Fuel Gas Co. is starting No. 1-5,839 John Mutchler farm, Section 3, Hanover Township, and No. 1-5,845 W. E. Moore farm, Section 20, Jackson Township.

In Athens County, Ohio Fuel Gas Co.'s No. 1-5,816, on the Atwood farm, fractional Section 31, Lodi Township, is a gas well at a total depth of 1,667 feet. Same company is drilling No. 1-5,836 on the Alden A. Buck farm, Section 17, same township. Same company has a location for No. 3-5,818 Frank Sargent farm, fractional Section 6, same township, also a location for No. 1-5,817 George W. Fulton farm, fractional Section 25-31, same township. Same company is drilling No. 1 Clyde Smith farm, fractional Section 31, same township. E. N. Williams has a rig on the John E. Hill farm, Section 24, Berne Township. Ohio Fuel Gas Co. is drilling No. 111-5,834 on the Sunday Creek Coal land, fractional Section 17, Dover Township.

In Medina County, Ohio Fuel Gas Co.'s No. 1-5,806 Edward Herr, Lot 1, Chatham Township, is a gas well at 3,140 feet and is starting No. 1-5,863 Eliza Briggs farm, Lot 2, same township. Preston Oil Co.'s No. 3-1,557, Litchfield Township, and No. 3-1,557 on the C. A. Dague farm, Lot 1, were dry.

In Stark County, Ohio Fuel Gas Co.'s No. 1-5,996 Rachael Beltz farm, Section 7, Jackson Township, is a gas well at 4,210 feet. Same company is drilling No. 1 A. J. Stoner farm, Section 3, same township, and has a rig for No. 2-5,846 Howard Hoverland farm, Section 10, same township. In Plain Township, Brendel Producing Co. is drilling No. 1 Eli and John Graber farm, Section 14. Hoover Development Co. is drilling below 4,400 feet in No. 2 fee farm, Section 9, same township. Cunningham Natural Gas Co.'s No. 2 F. and A. Willaman farm, Section 17, same township, is drilling below 3,900 feet, and the company is drilling below 2,200 feet in No. 2 Levi A. Stoner farm, Section 20, same township. East Ohio Gas Co. is drilling No. 1 Henry P. Thomas farm, Section 24, Jackson Township, below 3,700 feet. Same company's No. 1 George Letherman farm, Section 11, same township, is

(Continued on Next Page)

Central West Fields

(Continued from Preceding Page)

drilling below 2,600 feet. Same company is drilling below 3,600 feet in No. 1 James Boren farm, Section 15, Jackson Township. Brendel Producing Co. is drilling below 2,800 feet in No. 1 I. and E. Drowns farm, Section 4, Osanburg Township.

Lorain County

In Lorain County, McMillan and others' No. 1 Merl Penfound farm, Lot 9, Carlisle Township, is dry. Wittmer Oil & Gas Co. has a rig in for No. 1 J. J. Wargo farm, Lot 78, Eaton Township.

In Holmes County, Ohio Oil Co.'s No. 1 Amos H. Graven farm, Section 7, Prairie Township, produced an initial of 15 bbls. at 3,506 feet. Ohio Fuel Gas Co. is drilling No. 1-5,840 on the Walter C. Uhl farm, Section 11, Mechanic Township.

In Knox County, Upham Gas Co.'s No. 1, on the Brook Ranson farm, Lot 38, Monroe Township, is dry, and the same company is drilling No. 1 Samuel V. Baker farm, Section 6, Brown Township. Ohio Fuel Gas Co. is drilling No. 1-5,850 Dale Switzer farm, Section 7, same township. Pure Oil Co. is drilling below 2,900 feet on the B. R. Basine farm, Section 8, Union Township.

In Coshocton County, Ohio Fuel Gas Co. is starting No. 3-5,859 on the Victor Scheibe farm, Lot 11, Clark Township. Preston Oil Co. is drilling below 3,200 feet in No. 3-5,809 R. H. Giffen farm, third-quarter section, Newcastle Township. Same company's No. 2-1,545 A. J. and B. W. Beatty farm, in the same quarter section, is down to 3,108 feet with an oil showing. Mehowa Oil & Gas Co.'s No. 2 on the Saul Haun heirs' farm, Section 8, Clark Township, is ready to spud. Ohio Gas, Light & Coke Co. is drilling around 700 feet in No. 2 on the Nicholas Lower farm, Lot 10, Mill Creek Township.

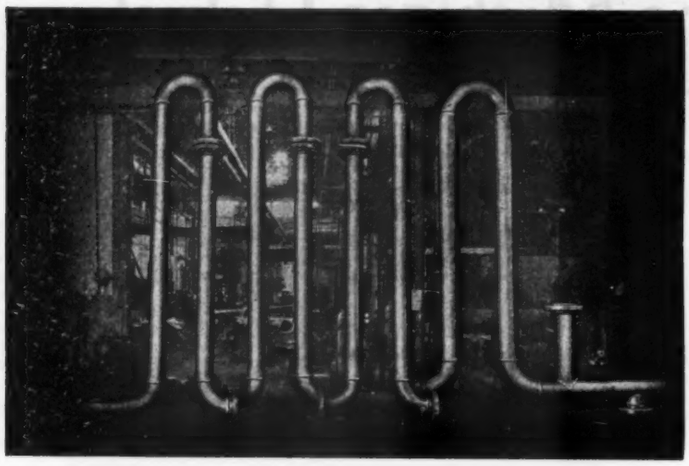
In Licking County, Blue Rock Oil Co. is drilling around 2,500 feet in No. 4 on the Rachael Freece farm, Section 14, Fallsburg Township. McClay Brothers have a showing of oil and gas in No. 1 W. R. Bourne farm, Section 17, at a depth of 1,935 feet, the showings being 87 feet in the lime. Upham Gas Co. is drilling below 2,700 feet in No. 3 Charles Babcock farm, Section 14, same township. Blue Rock Oil Co. is drilling below 350 feet in No. 3 Walter Hoyt farm, Section 17, Perry Township. Charles Vaughn is shut down at 600 feet in No. 1 Henry Wilkin farm, Section 5, Franklin Township, same county.

In Guernsey County, Clymer and others' No. 1 M. H. Petty farm, Lot 2, Willis Township, is dry at 1,297 feet. George W. Jewell & Co.'s No. 1 Joe Polasky farm, Lot 2, same township, is a gas well. J. T. Roach has a gas well in No. 2 Sadia House property, Lot 20, same township, at 1,489 feet. Ohio Fuel Gas Co. made locations for four wells in Willis Township: No. 1-5,857 William W. Woodburn farm, Lot 21; No. 1 J. L. Lent farm, Lot 22; No. 2 D. M. Nesbit farm No. 2, and No. 1-5,847 Clark V. Foraker farm, Lot 20. H. B. Muhlback & Son made a location for No. 1 Worthy Dyson farm, Lot 11, same township.

In Gallia County, Addison Township, Ohio Fuel Gas Co. is drilling No. 2-5,851 C. C. First farm, Section 23, and No. 1-5,812 S. R. Bing farm, Section 22. H. E. Hamilton & Co. is drilling No. 1 Ella S. Jones farm, Section 31. Bowers and others are drilling No. 2 Ella M. Donally farm, Section 34, and Penn-Ohio Gas Co. is drilling No. 1 Cyrus Swisher farm, Section 25.

In Meigs County, Ohio Fuel Gas Co.'s No. 1-5,838 is a gas well at 946 feet on the Pearly Ralph farm, Section 4, Rutland Township. Joe Rubin and others' No. 1 on the Crosby J. Price farm, Section 4, same township, is a gas well at a total depth of 861 feet. In Lebanon Township, Joe Rubin and others' No. 1 on the Ray Proffitt farm, Section 25, is a gas well at 2,022 feet. Rutland Gas Co. is drilling on the L. M. Haley farm, Section 8, Rutland Township. Barton & Utsinger have a rig on the Kathryn Luskadoo farm, Section 9, same township. Nelson and others made a location for No. 1 on the Mary Benson and Emma Burney farm, Section 4, same township. Harrisonville Gas Co. is spudding No. 2 Eva Welsh farm, Section 23, same township. Starr Mills Co. is having trouble with casing in No. 2 Rena E. Kerr farm, Section 11, Sutton Township. O. D. Jones is drilling No. 2 W. E. McDade farm, Section 13, Lebanon Township. John Mayer & Co. is drilling No. 1 Abner Price farm, Section 8, same township.

In Summitt County, Ohio Fuel Gas Co. made a location for No. 1 Lorenzo

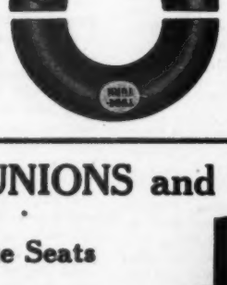


TUBE-TURN EXPANSION LOOPS
FOR 600-POUND, 750° STEAM PLANT

EAST, West, North, South—more Tube-Turns are in use today than any other fittings for pipe welding.

Why? Because Tube-Turns have *proved* their superiority. They are *curved sections* of seamless tubing, possessing the same strength, the same structure and the same freedom from stress as straight tubing. . . . They are *not* bends. They are therefore *uniform* in wall-thickness —no thinning, stretching, buckling or compressing of walls . . . They match the pipe in O. D., I. D., and wall-thickness, hence are installed more quickly and economically.

If you want the best in fittings for welding, use Tube-Turns. Write for prices and name of nearest distributor.

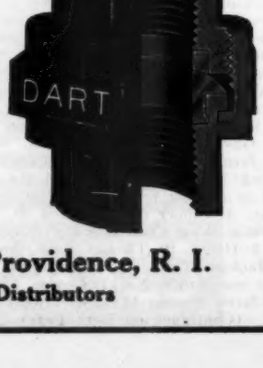


The word "Tube-Turn" is NOT a general name for welding fittings. Tube-Turns are THE *seamless fittings having uniform wall-thickness at all points, true circular cross-section, uniform radius of curvature and smooth inner walls. Made* ONLY *by Tube-Turns, Incorporated, 403 Herald-Post Bldg., Louisville, Ky.*

DART UNIONS and FLANGES

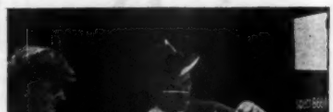
Two Bronze Seats

May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."



E. M. Dart Mfg. Co., Providence, R. I.
The Fairbanks Co.,—Distributors

Make every Hole a "Key" Hole



The "key men" of any organization are the *straight thinking* fellows who can always be depended upon to *carry through* to the profit of the company. The "key hole" in a drilling operation is the *straight going* hole that pays the greatest profit to the producer.

Make every hole you drill a "key hole" the SURWEL way. Lowered into the drill hole the SURWEL Gyroscopic Clinograph proves by pictures if you're off the vertical . . . and shows the actual direction of the deviation.

Sectional view of a SURWEL Clinograph

Write for descriptive literature and rates.

Also makers of the SYFO Clinograph.

U. S. Patents 1,124,068; 1,959,141, 1,960,038 and others pending.

Sperry-Sun Well Surveying Co.
1608 Walnut Street, Philadelphia, Pa.

Dallas, Texas, 1501 Munger Avenue
Tulsa, Oklahoma, 402 Petroleum Bldg.
Los Angeles, Calif., 415 Petroleum Securities Bldg.
Tyler, Texas, Peoples National Bank Bldg.
Houston, Texas, 819 Esperson Building

The SURWELL Clinograph

Keen farm, Section 12, Congress Township.

KENTUCKY

The Kentucky Field shows better results than for a long period and the outlook is for a greater amount of development work, as the wells appear to be better than for many months. There were eight completions during the week, one dry and seven which showed an initial of 815 bbls.

In Hancock County, in the Matthews Pool, Joseph B. Mayer's No. 4 J. W. Matthews farm, 1,000 feet from the north and east lines of the farm, produced an initial of 170 bbls. Miles and others' No. 1 in the southeast corner of the W. Bailey farm, same pool, produced an initial of 50 bbls.

In Ohio County, the best completion was W. E. Hupp and others' No. 2, in the southeast corner of the J. W. O'Dell farm, in the Matthews Pool which produced an initial of 175 bbls. No. 3 well on the same farm, same owners, 150 feet from the south line and 1,300 feet from the east line of the same farm, produced an initial of 125 bbls. Snowden-McSweeney Oil Co.'s No. 2 well, 150 feet from the north line and 550 feet from the west line of the J. W. Peckenpaugh farm, same pool, produced 125 bbls. Mecca Oil Co.'s No. 1 Frank Richards farm, same pool, was dry at 320 feet. Stewart and others' No. 1, 600 feet from the north line and 1,000 feet from the east line of the Jasper Roberts farm, in the Roberts Pool, produced 70 bbls., and No. 2 well, 150 feet from the north line and 600 feet from the west line of the same farm, produced 100 bbls. initial.

In Allen County, Mount Ariel area, Ben Ruble is drilling on the Charles Willoughby farm.

No completions reported from Indiana and Illinois fields for the week.

Kansas Fields

(Continued from Page 124)

190 feet south and 45 feet east of the NW cor. SW Section 20-22-3w, pumped an estimated 1,200 bbls. from Hunton lime based at 3,515 feet. Total depth was 3,570 feet and production was after acid treatment. This was also an old well drilled deeper.

The first reports are as follows: Phillips Petroleum Co.'s No. 1-A Masters, NE NW SW Section 4-23-2e, spudded and shut down; Sinclair Prairie Oil & Gas Co.'s No. 3 Ediger, NE SE SW Section 19-22-3w, an old well drilled deeper, old total depth 3,365 feet, rigging up to deepen; Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 2 Froese, NW SW NW Section 20-22-3w, old well deepened, old total depth 3,494 feet, rigging up.

Reno County

Sinclair Prairie Oil & Gas Co.'s No. 1 Shepherd, SE NW Section 22-26-9w, Reno County wildcat test, had Wilcox sand at 4,243-73 feet, shale 4,273-86 feet and sand at 4,286-88 feet, all of which were dry. The well was shut down.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Holtje "C," NE SW Section 16-26-4w, south offset to the Hilger Pool discovery well, had Viola lime at 4,057-59 feet, total depth, the hole filling with 3,800 feet of oil in five hours.

In the Haury Pool, Study-Frost and others' No. 1 Berger, C E half NE NE Section 2-23-4w, based the Mississippi lime at 3,540 feet and had Hunton lime at 3,645-62 feet, total depth, and shut down with a show of oil and a hole full of water.

Barnsdall Oil Co.'s No. 2 Sabin, SW NE Section 11-23-4w, swabbed 1,023 bbls. of oil in 23 hours from the Hunton lime at 3,553-77 feet, total depth.

In the Burrton Pool, Olsen and Shell Petroleum Corp.'s No. 5 Roberts, C SE SW Section 23-23-4w, had the chat from 3,260 to 3,371 feet, flowing 13 bbls. oil and 2,000,000 feet of gas in 10 hours. It was not completed.

Gypsy Oil Co.'s No. 4 Krehbiel, SE NW NE NE Section 35-23-4w, had Hunton lime at 3,578-97 feet, total depth. swabbing 984 bbls. in 21 hours. It was not completed.

McPherson County

Investors Mineral Development Co.'s No. 1 Kaufman, CWL NW NW NW Section 22-21-3w, McPherson County, was good for 79 bbls. of oil and 40 bbls. of water on pump. Chat formation was found at 3,051-96 feet, total depth. It was completed.

Vernon Oil & Gas Co. is getting a producer in No. 1 Bengston, SE NW NE Section 13-19-3w, Ritz Pool. Chat was at 2,945 to 3,013 feet, total depth, yielding 22,000,000 feet of gas and flowing 135 bbls. of oil. It was shut in.

Derby Oil Co.'s No. 1 Griffin, SE SW Section 11-19-2w, an old well deepened, had Viola lime at 3,375-82 feet, total depth, which produced 644 bbls. on the pump after acid treatment. It was completed.

Shell Petroleum Corp.'s No. 4 Giffin "A," SE NW Section 14-19-2w, pumped 733 bbls. of oil in 24 hours from Viola lime at 3,364-69 feet, total depth. It was acid treated.

Helmerich and Payne's No. 6 Russell "B," SW NE NE Section 23-19-2w, was acidized in the Viola lime at 3,380-85 feet, producing 122 bbls. of oil and 50 bbls. of water. It had not been completed.

Tom Palmer and others have completed No. 1 Nordling, SE SW Section 19-18-2w, for 339 bbls. in 24 hours on the pump. This was an old well deepened to the Siliceous lime found at 3,305 to 3,426 feet, total depth, which carried a hole full of water. It was plugged back to 2,310 feet and acidized to get production.

McPherson County had only one first report for the week, it being Shell Petroleum Corp.'s No. 6 Giffin "A," SE SW NW Section 14-19-2w, moving in material.

Barton County

Hilligoss and others' No. 4 Isern, NE SW NE Section 12-20-11w, Isern Pool, Barton County, was dry and abandoned at 3,338 feet, total depth. Siliceous lime was topped at 3,295 feet, had oil showing at 3,304-10 feet, and a hole full of water at 3,337-38 feet.

Two new operations started in Barton County over the week: Gypsy Oil Co. and Atlantic Oil Producing Co. and Shell Petroleum Corp.'s No. 1 Batchman, C SW NE Section 18-20-12w, a wildcat, building rig; Murphin and Downing's No. 1 Lanterman, NW SE Section 15-19-11w, cellar.

Rice County

Rice County came through with the largest number of completions of any county in the state the past week. The list follows:

Mid-Kansas Oil & Gas Co.'s No. 3 Proffitt, NE NW NW Section 5-20-9w, yielded 536 bbls. on the pump from Siliceous lime formation at 3,219-32 feet, total depth.

Empire Oil & Refining Co.'s No. 1 Proffitt, NW SE SE Section 6-20-9w, swabbed 380 bbls. in 12 hours from the Siliceous lime found at 3,265-68 feet, total depth. It had not been completed.

Gypsy Oil Co.'s No. 5 Christopher, NE SE NE Section 6-20-9w, had Siliceous lime at 3,257-66 feet, total depth, which was good for 1,470 bbls. on the pump after acid treatment. It was completed.

L. H. Wentz' No. 6-A Bright, NE NW Section 1-26-1w, was completed for 3 bbls. of oil and 25 bbls. of water, production coming from K. C. lime from 2,575 to 2,669 feet, total depth.

Phillips Petroleum Co.'s No. 1 Nolan, NW cor. Section 21-28-1e, had chat formation at 3,056 to 3,104 feet, total depth, and flowed 273 bbls. oil and 3,000,000 feet gas in 24 hours. It is to be acidized.

Bar-Key Petroleum Co.'s No. 1 Swanson, C NE Section 6-26-2e, topped the chat at 2,976 feet, and at 6 feet in had 2,700 feet of oil in the hole.

Sedgwick County registered with a new wildcat first report in Jones, Kirk and others' No. 1 McQuillan, NE NW NE Section 21-29-2w, building rig.

Butler County

L. C. Hay and others' No. 1-A Bolin, SE SW SE Section 36-26-6e, Butler County wildcat test, topped the K. C. lime from 2,050 feet, and pay at 2,159-76 feet, total depth, and pumped 12 bbls. of oil and 20 bbls. water per day after acid treatment. It was a completion.

One new operation started in Butler County, it being Garden and others' No. 1 Penner "B," NW SW Section 32-24-4e, rig on the ground.

Greenwood County

Greenwood County came through with three completions over the week, the list follows:

Aikman and others' No. 1-A Gilroy, SE SW NW Section 24-25-12e, a wildcat test, was abandoned after being spudded in.

Spencer and others' No. 3 Thrall, NW SE SE NE Section 17-24-12e, had Bartlesville sand at 1,714-56 feet, total depth, pumping 140 bbls. of oil. It was completed.

Phillips Petroleum Co.'s No. 8 Beal, 820 feet south and 600 feet east of the NW cor. NE Section 28-23-11e, pumped 18 bbls. of oil from sand at 1,884 to 1,970 feet, total depth, after a shot of 120 quarts of nitro. It was completed.

Greenwood County had only one first report, it being Cory Oil Co.'s No. 1 Holland, C N half SW SW Section 10-25-11e, drilling 535 feet.

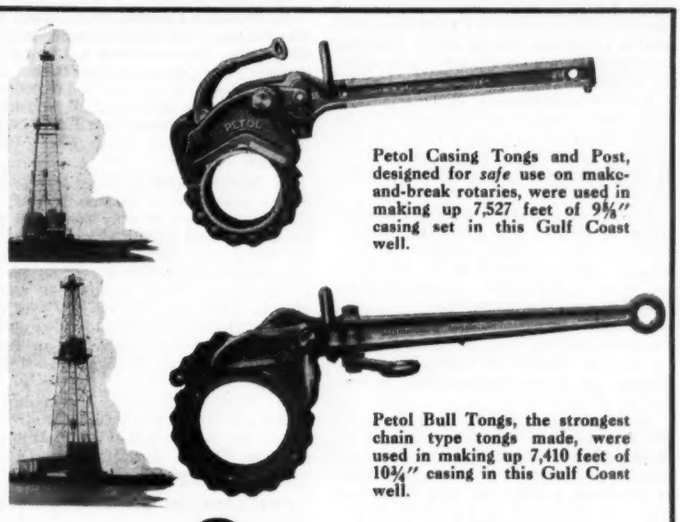
Elk County

Diller Oil & Gas Co.'s No. 1-A Keys, C E half SE NE Section 26-31-10e, Elk County, had Oswego lime at 1,632-53 feet, total depth, and was completed for 8 bbls. of oil per day on the pump after acid treatment.

New starts in Elk County over the week are listed as follows: Barber and Morgan's No. 1 Ferguson, NW SE SE NW Section 23-31-8e, location; Hicks and others' No. 1 Well, NE SW SW Section 23-31-10e, machine; Diller Oil & Gas Co.'s No. 2 Keys, NE SE NE Section 26-31-10e, location; same company's No. 3 Keys, NW SE NE, location; Theta Oil Co.'s No. 1 Walker, NE cor. Section 27-31-10e, machine.

Woodson County

Woodson County registered with one completion in El Bar Corp.'s No. 1 Reed, SE cor. Section 27-23-14e. Top Mississippi lime at 1,694 feet. It was abandoned with a hole full of water coming from 1.760-66 feet, total depth.



Petol Casing Tongs and Post, designed for *safe* use on make-and-break rotaries, were used in making up 7,527 feet of 9⅝" casing set in this Gulf Coast well.

Petol Bull Tongs, the strongest chain type tongs made, were used in making up 7,410 feet of 10¾" casing in this Gulf Coast well.

2 Gulf Coast
CASING RECORDS
on which pipe was made up with
PETOL TONGS

The two longest and heaviest strings of casing ever set on the Gulf Coast, recently landed by two major operators, were made up with Petol Tongs. In one well, 7,527 feet of 9⅝" pipe was made up with Petol Casing Tongs and Post, in addition to 1,509 feet of 13⅜" pipe. These tongs are designed for use with make-and-break rotaries, and are the safest, fastest and most easily handled tongs ever made for running in casing or drill pipe. In the other well, 7,410 feet of 10¾" pipe was made up with Petol Bull Tongs, in addition to 1,061 feet of 18⅝" and 4,497 feet of 13⅜" pipe. These are the strongest chain-type tongs ever built. Both tongs are of patented, non-crushing type, equipped with Petol Safety Links—a patented link which positively prevents injuries to crew members through chain breakage.

Why Petol Tongs were selected for these two difficult casing jobs is worth your investigation. A catalog of our tools, comprising THE MOST COMPLETE LINE OF TONGS IN THE WORLD, will gladly be forwarded on request.

GEARENCH MFG. CO.
313-323 HUGHES STREET
HOUSTON - - - - - TEXAS

Fourteen Wells Completed in Eastern Districts; Six of Producers Were in Southeast Ohio

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 23.—Fourteen wells and four dry holes was the total of the new work in the lower Eastern fields during the week. Eight of the completions were producers with an initial production of 73 barrels. Six of the new producers were in southeast Ohio and two of them showed development.

SOUTHEAST OHIO

In Licking County, McClay Brothers drilled a test on the William Bourne farm, mapped as the Joseph Varner, in the southwest quarter of Section 17, Fallsbury Township. It was scheduled to be drilled to the Clinton sand but oil was found in the lime at 1,932 feet. The well is tubed and will be put to pumping and later given an acid shot. It is rated at 10 bbls. a day.

In Coshocton County, Preston Oil Co. completed a second test on the A. J. and B. W. Beatty farm in New Castle Township in the Clinton sand at 3,285 feet. It produced 30 bbls. the first day after shot.

In Holmes County, Ohio Oil Co. completed a test on the Amos H. Graven farm in the southeast quarter of Section 7, Prairie Township, in the Clinton sand at 3,520 feet. It produced 15 bbls. the first day after shot.

In Jefferson County, G. S. Kelly and others drilled No. 6 on the Ella E. Baxter farm in Section 29, Saline Township, through the Berea to 1,014 feet. It was dry in all formations.

In Medina County, E. R. Edson and Son Co. completed No. 49 on the Ed G. Miller farm, Tract 15, Lot 12, Chatham Township, in the Berea Grit at 500 feet. It produced 3 bbls. the first day after shot. In Section 1 of Litchfield Township, same company drilled No. 3 on the C. A. Dague farm through the Berea Grit to 318 feet. It was a dry hole.

In Washington County, W. S. Harris completed a fair test on the Mary M. Dille Heirs farm in the southeast quarter of Section 3, Wesley Township. It was drilled in the Maxon sand at 962½ feet and is showing for 10 bbls. a day, natural, along with 304,000 feet of gas a day. In Section 16 of Salem Township, Pearl Sexton and others completed a second test on the John W. Haas farm in a stray sand at 775 feet. It produced about 2 bbls. the first day after shot.

WEST VIRGINIA

There was only one new producer completed in West Virginia during the week, and it was small. In Wirt County, on the waters of Oil Rock Run in Clay district, W. C. Patterson completed No. 23 on the C. E. Vandevender farm in the Cow Run sand. It will make a 1-bbl. pumper.

The test on the F. M. Wince farm, mapped as the Charles Wilcox farm, in Clay district, Ritchie County, about a mile and a half northwest of Ellenboro, averaged in excess of 100 bbls. a day during the week. This is the lower end of the Pike Pool. Drilling in that vicinity has been stimulated with the fair showing of the three wells. About 100 feet south of the Wilcox well, Lonie Oil Co. has set a drilling machine on the Lonie McDaniel farm. Smith and others are about due in the Injun sand with No. 1 on the B. Wince farm. Cottrell and others have started drilling the second test on the M. S. Riggs farm. Smith and Rexroad have a location on the C. O. Delancy farm.

Southeast of this excitement in the Lost Run Pool, Clay district, C. F. Vincent & Co. have made a location and completed a rig for No. 6 on the J. T. and Ella B. Fox farm and it is about 425 feet northwest of No. 4 on this farm.

Gas Wells

In Boone County, Godfrey L. Cabot, Inc., completed a test on the Sidney White farm in Washington district. It was drilled in the Berea sand at 2,341 feet and is a small gas well.

In Cabell County, H. H. Baker Gas Co. completed a fair well on the Augusta Beckett farm which was drilled in the Salt sand at 1,704 feet. It is showing for 750,000 feet a day.

In Putnam County, there were two completions. In Scott district, Midway Cities Gas Co. completed a test on the Switzer Heirs farm in the Berea sand at 2,145 feet. It gauges at 116,000 feet a day. In this district, J. V. Reishman completed a test on the James Webb farm at 2,280 feet. It is a very light gas well.

In Ritchie County, Clem Morris and others completed a test on the M. M. Broadwater farm in Clay district in the Squaw sand at 1,857 feet. It has 476,000 feet a day. In Grant district, Adams and Satterfield drilled a test on the A. L. Mullenaux farm through the Squaw sand to 2,090 feet. It was dry. In this district, Horner and Hawk drilled on the J. W. Alkire farm through the Big Injun sand to 2,082 feet. It was also dry in all formations.

In Wetzel County, Manufacturers Light and Heat Co. completed drilling deeper No. 3300 on the W. P. Hubbard farm in Church district. It is a gas well at 3,004 feet.

DRILLING IN WEST VIRGINIA

The most important well started during the week is in Center district, Gilmer County. Godfrey L. Cabot, Inc., started drilling No. 2 on the J. P. Norman farm deeper from 1,602 feet, the Maxon sand, to the Berea sand. It is about 10,500 feet northeast of Hope Construction and Refining Co.'s No. 1 on the John R. Simmons farm and will try to pick up the production southwest of it.

In Boone County, Godfrey L. Cabot, Inc., has started a test on the White and Hopkins lease in Washington district and reached 530 feet. The same operator is building a rig on the Spruce-Boone Land Co. lease. In this district, Pond Fork Oil & Gas Co. has started drilling No. 18 on the Cole and Crane lease. In Sherman district, Godfrey L. Cabot, Inc., has two wells drilling, No. 53 on the Federal Coal Co. lease at 3,070 feet, near the sand, and No. 3 on the J. Q. Dickinson farm at 2,541 feet. In this district Pure Oil Co. has reached 1,669 feet on the Williams Coal Co. tract, No. 260; 633 feet on the Lafollette, Robson and Prichard Tract C No. 2; 1942 feet in No. 67 on the Federal Coal Co. tract and 1,346 in No. 68, same tract.

In Cabell County there were no new locations. In Barboursville district, United Fuel Gas Co. started drilling the second test on the J. W. Starkey farm. In McComas district, R. H. Adkins and others have reached 1,998 feet on the C. P. Rousey farm; West Virginia Gas Co. is down 1,500 feet on the John J. Porter farm, a second test; and has started drilling on the Alifair Adkins farm.

In Calhoun County, Cain and Rothwell has completed a rig on the Ernest Marshall farm in Sheridan district. In this district, Richter Oil Co. is building a rig for No. 5 on the Z. O. Cooper farm on which fair production has been found.

In Washington district, Godfrey L. Cabot has made a location for No. 3 on the G. W. Truman farm. Ohio Valley Gas Corp. has reached 550 feet on the N. L. Norman farm. In Lee district, Jarvis and Ayers have completed rig on the Roanna Robinson farm. In Sherman district, Godfrey L. Cabot, Inc., has reached 1,900 feet in drilling deeper No. 9 on the W. T. Rafferty farm. Carnegie Natural Gas Co. has part of the material on the ground for No. 1,485 on the R. F. Bennett farm. H. B. Scott has reached 1,050 feet on the P. Fling Heirs farm, a test. Kenny M. Hunt has rigged up on the Glen Wilson farm. L. P. Bickel has completed a rig for No. 16 on the Stump Heirs farm.

In Doddridge County, W. D. Gribble has a rig completed for a second test on the M. J. Smith farm in McClelland district about 600 feet southeast of No. 9 on the Batten farm.

In Gilmer County, McCall and others are down 1,500 feet in No. 4 on the Lee Gainer farm in DeKalb district. In this district, Clem Morris and others have reached 1,300 feet in No. 4 on the Cora B. Gainer Heirs farm, and A. E. Ellis and others are drilling at 500 feet in No. 3 on the Webster and Ware lease.

Second Harrison County Test

In Harrison County, Read and Moses have reached 2,380 feet in a second test on the A. P. W. Flannigan farm in Ten Mile district. In Jackson County, on the waters of McCrady Fork in Washington district, H. F. Parson and others have reached 600 feet on the W. L. Kelley farm, one mile south of production on the M. J. McCrady farm.

In Kanawha County, Godfrey L. Cabot, Inc., has 4 wells drilling. In Malden district, No. 7 on the Campbells Creek Coal Co. is down 1,060 feet; in the same district, No. 6 on the William P. Tompkins farm has reached 1,593 feet. In Cabin Creek district, No. 44 on the Arabella D. Huntington lease is drilling at 2,183 feet and No. 45 at 1.000 feet.

In Lincoln County, David Gas Co. has started drilling the test on the T. W. Dolan farm in Jefferson district. In Sheridan district, Kanawha Gas & Utilities Co. is drilling at 1,850 feet on the W. S. Snodgrass farm, a test. In Carroll district, R. H. Adkins and others are setting a machine on the Victoria Adkins farm.

In Mingo County, F. H. Yates is rigging up on his own farm in Harvey district. In Pleasants County, on French Creek in Washington district, W. C. Patterson & Co. have started drilling a second test on the Roland Dye farm.

In Marion County, Monroe nad Laughlin have reached 2,250 feet on the Howard Rice farm in Mannington district. In this district, Carnegie Natural Gas Co. is down 1,220 feet on the Martha E. Keenan farm, No. 2.

In Monongalia County, Harry L. Tennant is drilling at 3,144 feet on the Wise and Tennant lease, No. 5, in Battelle district. In Clay district, Chartiers Oil Co. is down 990 feet on the Simon Shriver Heirs farm.

In Ritchie County, on Leather Bark Creek in Murphy district, the Lewis and Litten Gas Companies are drilling on their 1½-acre tract. In this district, W. H. Bickle has a rig standing for No. 3 on the U. S. Fluharty Heirs farm. L. P. Bickle has reached 1,570 feet on the P. W. Morris farm and has a rig on the Mary Miller farm. In Grant district, Gillman and others are down 1,450 feet on the Stephen Gillman form.

In Roane County, Guy L. Boggess and others have started drilling No. 1 on the O. M. Young farm in Smithfield district, 400 feet south of the Sand Run Oil & Gas Co.'s test on the Josephine Young farm. Howard Bartlett and others have part of the material on the Anna Brannon and others lease. In Reedy district, Law and Leeton are down 640 feet on the O. M. Tatterson farm, a test. In Curtis district, Henderson Oil Co. has a location on the George L. Ball farm.

In Tyler County, Stewart and Peters have made a location on the J. B. Stewart farm in Union district. In Wetzel County, G. N. Yoho and others are building a rig on the George A. Smith farm in Proctor district. In Wirt County, Southern Oil Co. has reached 1,560 feet on the M. Richter Heirs farm, No. 21 in Burning Springs district, and Daubenspeck and Mason have the material on the C. Nelly farm. In this district, R. C. Waggoner and others have a location on the J. W. Bunner farm.

SOUTHWEST PENNSYLVANIA

There was one small completion in Southwest Pennsylvania. In Washington County, E. H. and J. B. Tague continued their Dunkard sand streak operations with No. 11 on the Adaline D. McKennan Estate farm in South Franklin Township. It reached the Dunkard sand at 868 feet and is showing for about 2 bbls. a day.

In Greene County, J. B. Orndoff has reached 2,020 feet on the W. H. Scott farm in Center district. In Dunkard Township, Fred Garrison is drilling at 250 feet on the Henderson Coal Co. lease. New Oil & Gas Co. reached 325 feet on the J. F. Wilson farm and shut down.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is drilling at 2,150 feet on the N. B. Redd farm. The top of the Big Injun sand was at 1,995 feet. Its test on the Farabee farm is drilling at 660 feet.

In South Franklin Township, Washington County, Duquesne Gas Co. is drilling deeper No. 1 on the John Day farm. This is in line with production on the Alberta Iams farm which is a fair producer. On this line Carnegie Natural Gas Co. has completed a rig for drilling deeper No. 1 on the C. T. Boyd farm. It was a former gas well in the 50-foot sand and will be drilled to the Fifth or producing sand.

In Perry Township, Greene County, No. 1 on the E. D. Patterson farm which is being drilled deeper has reached 2,450 feet. The Pittsburgh Coal was at 808 feet.

In Fayette County, the test of Carnegie Natural Gas Co. on the George N. Boyd farm in Jefferson Township is drilling at 1,560 feet.

TO USE GAS INSTEAD OF OIL

The Omaha, Neb., Metropolitan Utilities District has approved a contract with the Northern Gas & Pipe Line Co. to supply natural gas in place of oil in the production of gas. Col. T. A. Leisen, general manager, was authorized to proceed with the laying of the connecting pipe line as soon as possible.

Cost of laying the pipe was estimated at not more than $42,500. The Northern Gas & Pipe Line Co. will furnish the material and pay the cost of altering the gas generators at an estimated cost of $7,500. The contract guarantees a saving of $100,000 in one year. It is estimated that nine months will be required to make the change.

North Louisiana Wildcats Are Disappointments; Stake Sixteen New Locations in Three Districts

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., July 23.—This division reported a total of 17 completions during the past week, 14 of which were in the North Louisiana district, but the general results were rather disappointing as several promising wildcats were listed among the failures. However, to offset the barren completions, continued activity is indicated by the announcement of 16 new locations staked in three of the districts.

NORTH LOUISIANA

As indicated last week, one of the hottest wildcats in this district failed to encounter the expected pay sands in the Blossom or Woodbine and was abandoned as dry in shale at the contract depth of 3,502 feet. The test, L. M. Moffitt and others' No. 1 Antrim Lumber Co., Section 26-22-12, in the northern part of Bossier Parish, will not be drilled to the lower horizons at this time. The wildcat is on a block of 17,000 acres with Ohio Oil Co. and Magnolia Petroleum Co. each holding a one-third interest, and it is not known whether or not other tests will be drilled on the block. Although not officially completed, Eastern Texas Production Co.'s No. 1 Givens estate, Section 2-17-4, Lincoln Parish, stands temporarily abandoned at 3,503 feet. This test logged a good body of Blossom sand, but only a slight show of gas with salt water developed on the several drill stem tests made.

Five of the nine dry holes reported were in the Converse and Zwolle Fields which failed to make commercial producers after being rigged up to pump. The Converse area experienced one of the most disastrous weeks since its discovery by furnishing four dry holes, while the Zwolle Field to the southeast reported one duster, a well that has been temporarily abandoned for several months. In the southern part of DeSoto Parish, George Le Grand's No. 1 D. T. Fulmer, Section 1-11-16, was finally abandoned as dry at 2,255 feet. Testing salt water at this depth, the well was plugged back and tested dry at 1,965 feet and also tested dry after shooting at 1,155 feet. A Grant Parish test, Grant Minerals' No. 1 Cameron, Section 26-7-3w, was abandoned at the shallow depth of 700 feet after having been shut down during the present year. In the Blanchard gas area, Caddo Parish, Pyramid-Barbare's No. 1 Hearne, Section 34-19-16, a shallow test to the Nacatoch, encountered salt water and was abandoned at 933 feet.

Caddo Parish

Two small gassers and three pumping oil wells completed the list of finished operations in the North Louisiana district. In the Hosston area of Caddo Parish, Shore Line Oil Corp.'s No. 1-C Standard, Section 18-21-15, gauged 393,000 feet of gas from 1,085 feet, and in the proven gas area of Ouachita Parish, Arkansas-Louisiana Pipe Line Co.'s No. 10 Rea-Green, Section 33-19-4e, had the small initial flow of 1,500,000 feet of gas from 2,190 feet. The three producers were in the Zwolle and Converse Fields, Monroe Production Co.'s No. 7 Sabine Lumber Co., Section 11-7-12, pumping 100 bbls. daily from 2,399 feet; Texas General Petroleum Co.'s No. 1 Martinez, Section 4-7-13, a 15-bbl. pumper from 2,360 feet, and J. D. Reynolds' No. 3 Paul estate, Section 9-9-14, pumping 75 bbls. from 2,005 feet.

New Locations

Only a few of the new locations staked in the North Louisiana district were rank wildcats, the majority being in the proven gas or oil fields. In Avoyelles Parish, Bell Oil Co. is rigging up to deepen an old test from 2,060 feet in Section 11-2n-5e. Clyde Crichton is rigging up to deepen No. 1 Friedman estate, Section 52-7-6, in Natchitoches Parish.

Producers Oil & Gas Co.'s No. 1 W. H. Werner, Section 7-17-11, Bossier Parish, blew out with an estimated 1,500,000 feet of gas and a heavy spray of salt water from 3,970 feet. It was killed by the use of baroids and arrangements are being made to make a drill stem test to determine, if possible, where the salt water is coming from. The test is about 1½ miles north of the Sligo gas field, and was being drilled in an effort to extend gas production from Oolitic lime in the Glen Rose expected around 4,200 feet. The present show is evidently coming from some sand in the upper part of the lower Cretaceous series, or probably from a break in the anhydrites. A wildcat in Sabine Parish, near Peason, G. W. Longley's No. 1-A Peavy-Wilson, Section 16-5-9, is attracting more than ordinary attention. It is an offset to a well drilled by the same operator last year in which a show of oil was reported before the hole was junked at 3,875 feet. The test is now lubricating stuck drill stem at 4,203 feet. George L. Pace's No. 2 DeSoto Corp., Section 27-10-13, about 2 miles north of the proven area of Converse, is being watched as a possible producer from a deeper horizon. The well is coring at 2,908 feet, and is an offset to a small gasser completed by this operator at 1,943 feet. In Red River Parish, W. K. Williams' No. 1 De Moss estate, Section 33-13-11, near the DeSoto and Red River Parish line, has set 7-inch casing at 2,430 feet to test 5 feet of likely looking sand cored from 2,460-65 feet.

ARKANSAS

W. F. Lacey's No. 1 Gibson, Section 30-19-27, in the southwestern part of Miller County, was the outstanding disappointment in that district. It is about 4 miles southeast of E. L. Young, trustee's No. 1 Patterson, Section 5-19-28, which caused a leasing campaign several months ago by cutting a core containing some oil sand from 3,655 feet. The Lacey test failed to encounter this show in the Woodbine and is coring below 3,700 feet. It is reported the wildcat will be drilled to the Trinity. The failure of the Lacey test does not condemn the territory immediately adjacent to the Young well, or any tests that may be drilled along the flank of the Balcones Fault through Miller and Lafayette Counties. It is generally conceded that if a new field is uncovered it will be in close proximity to this fault on the south side and parallel to it. On the eastern flank in Lafayette County, Earl F. Fox has spudded his No. 1 Coleman Brothers, Section 36-16-25, and set 10-inch surface casing at 80 feet. About 7 miles northeast of the Fox test, Benedum & Trees have staked location for its No. 1 Bodcaw Lumber Co. in Section 19-16-23. A block of about 10,000 acres was assembled surrounding the test by Andrew V. Erwin of Tulsa and J. K. Wadley of Texarkana, part of which was assigned to Benedum & Trees for a test, the reported contract calling for 4,500 feet.

The Arkansas district had two completions, both pumping wells. Arkanva Oil Corp.'s No. 2-B E. L. Beck, Section 33-15-26, is a 350-bbl. pumper from 2,923 feet. In the Stephens area of Columbia County, O. F. Whittaker's No. 1 Hall, Section 10-15-20, is pumping 15 bbls. daily from 2,156 feet. Two new operations, one a wildcat and the other in the Urbana proven territory, comprised the list. In Hempstead County, F. W. Martin & Co. has derrick up on its No. 1 Lafferty in Section 17-14-24, and Marine Oil Co. is rigging up its No. 1 K. D. Parker, Section 2-18-13, in the Urbana area of Union County.

MISSISSIPPI

A deep test in Greene County, United Gas Public Service Co.'s No. 1 Davis, Section 30-1n-5w, was dry and abandoned during the week at 7,439 feet. The wildcat, begun about the first of this year, was on a block of 70,000 acres.

In Monroe County, northeastern part of the State, Mississippi Public Service Corp. and Amory Petroleum Co. has staked a location in Section 12-13s-18w. It is in the vicinity of the limited Amory gas field, the first producing area in Mississippi. Two other new operations were reported, both in the Rankin and Hinds County gas area of the Jackson Field. There are active wildcats in Washington, Simpson, Clarke and Madison Counties but none was on test during the week.

ALABAMA

In Alabama, the Magnolia Petroleum Co.'s No. 1 Scotch Lumber Co., Section 17-10n-3e, Clarke County, is drilling in red shale at 4,025 feet, and in Houston County, Rice Oil & Gas Co.'s No. 1 Oakley estate, Section 9-3n-29e, is drilling in gummy shale at 1,810 feet.

NO DRAKE MEMORIAL STAMP

WASHINGTON, D. C., July 23.—Attempts to have a Drake Memorial Stamp issued by the Post Office Department for the Drake Diamond Jubilee appear to be unsuccessful. Officials of the department say that due to so many memorial stamps being issued there is not sufficient time for the issuance of this stamp. It was acknowledged this was a very worthy subject but it was physically impossible to have them engraved and issued. A series of memorial stamps for the various national parks is being issued and it is felt by the department it should not issue any more memorial stamps this year.

Secretary Ickes and other high officials have requested that this stamp be issued, but the Post Office Department is unable to comply with their wishes.

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Haas & Stokes' No. 1 Lindstrum Land Co., 690 ft. S, 980 ft. E, NW cor. Sec. 34-1n-4e. Set 12-in. 40 ft.

BOSSIER PARISH

Bossier O. & G. Co.'s No. 1 Sherrill, 300 ft. S and W, NE cor. Sec. 13-9-13. S.D.; W.O. 2,241 ft.

Dickinson & Pearce's No. 1 Taylor, 160 ft. S and W, NE SW NE Sec. 16-19-11. Rigging up.

Howard & Baird's No. 1 Gold, 150 ft. S and E, NW cor. Sec. 36-20-13. S.D. for water 850 ft.

McKinney & Stewart's No. 1 Nattin, 470 ft. W, 620 ft. S, NE cor. Sec. 22-22-14. S.D. 2,978 ft.

Moffitt et al's No. 1 Antrim, 330 ft. N and W, SE cor. SW NE Sec. 26-22-12. Dry and abd. 3,502 ft.

Producers O. & G. Co.'s No. 1 Werner, 660 ft. N and W, SE cor. Sec. 7-17-11. Killing gas blowout 3,970 ft.

CADDO PARISH

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. Sec. 15-20-15. Tested S.W. 1,560 ft.

W. T. Bell et al's No. 1 Bostick, 1,320 ft. E, 660 ft. N, SW cor. Sec. 13-22-16. S.D. for water, 2,540 ft.

Burkett O. & G. Co.'s No. 1 Lindholm, 400 ft. S and E, NW cor. NE SE Sec. 15-17-14. S.D. 1,046 ft.; repairing rig.

Capitol O. & G. Co.'s No. 1 Noel Est., 300 ft. S and E, NW cor. NE Sec. 13-20-16. S.D. 450 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16. S.D. 2,128 ft.

Simplex Oil Co.'s No. 9 Youree-Randolph, 660 ft. S and W, NE cor. SE Sec. 13-20-15. P.B., set 6-in. 1,778 ft.

CALDWELL PARISH

Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 300 ft. W, SE cor. NW NE Sec. 18-11-3e. Drlg. rock 2,865 ft.

DE SOTO PARISH

L. H. Alderson's No. 1 Peek, SE cor. NW NE Sec. 25-11-12. S.D. for wtr. 2,030 ft.

Dempsey & Manziel's No. 1 Thigpen, 375 ft. S, 330 ft. W, NE cor. SW NE Sec. 33-13-13. S.D. for wtr. 1,605 ft.

Gaskill et al's No. 2 Guy, 370 ft. S and W, NE cor. NW SE Sec. 3-11-13. Tested dry; W.O. 1,735 ft.

Hester et al's No. 1 Alston, 330 ft. S and W of center of Sec. 11-11-16. Rigging up.

Geo. M. LeGrande's No. 1 Fulmer, 300 ft. N and W, SE cor. NW SW Sec. 1-11-16. Dry and abd. 2,255 ft.

Texas Co.'s No. 13-A Wemple, Sec. 1-12-13. Drlg. 2,509 ft.

J. S. Tuffree's No. 1 McGill, 450 ft. N, 150 ft. W, SE cor. SW SE Sec. 1-10-13. S.D. 2,135 ft.

LINCOLN PARISH

Eastern Texas Prod. Co.'s No. 1 Givens Est., SW cor. NE Sec. 2-17-4. T.A. 3,503 ft.

MOREHOUSE PARISH

Grecian Bend Gas Co.'s No. 1 Patton, 759 ft. E, 177 ft. S NW cor. NE Sec. 11-20-4e. Set 6-in. 2,115 ft.

Zeiger & Bacon's No. 1 Crossett, 400 ft. N, 300 ft. W, SE cor. Sec. 41-23-6e. T.A. 3,111 ft.

NATCHITOCHES PARISH

Jack Let's No. 1 Brown Lbr. Co., 400 ft. S, 300 ft. E, NW cor. NE SW Sec. 27-9-13. Set 10-in. 21 ft.

Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10. Reaming to bottom 1,033 ft.

Plummer & McDaniel's No. 1 Walmsley, SE SW Sec. 45-10n-8w. Drlg. 4,740 ft.

Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, SW cor. Sec. 28-9-10. W.O. casing 2,260 ft.

J. B. Storey's No. 1 W. W. Page est., NE cor. SE NW Sec. 18-8-9. S.D. 1,544 ft.

OUACHITA PARISH

Ark.-La. P. L. Co.'s No. 10 Rea-Green, 1,775 ft. W, 35 ft. N, SE cor. SW Sec. 33-19-4e. Comp. 1,500,000 ft. gas 2,190 ft.

Carbons Consolidated's No. 8 Guthrie, 1,550 ft. N 250 ft. W of SE cor. Sec. 22 in Sec. 20-20-4e. Rigging up.

Carbons Consolidated's No. 4 Cole, 662 ft. S, 1,969 ft. W, NE cor. Sec. 36-20-4e. Tested S.W. 2,304 ft.

United Carbon Co.'s No. 3 Cole, 1,320 ft. N, 561 ft. E, SW cor. Sec. 25-20-4e. Set 12½-in. at 180 ft.; set 8-in. 778 ft.

RED RIVER PARISH

Louis L. Glass' No. 1 Dickson, 400 ft. S and W, NE cor. NW SE Sec. 32-12-8. S.D. 1,004 ft.

Kincaid & Kelly's No. 1 Ober, 315 ft. N, 257 ft. W, SE cor. NW SE Sec. 5-14-10. Fishing for D.S. 2,110 ft.

A. D. Mytiler's No. 1 La. Delta Pecan Co., 1,709 ft. N, 160 ft. E, SW cor. Sec. 27-13-11. S.D. 887 ft.

(Continued on Page 145)

Hobbs Pool Well May Have Found Deep Pay; Plan 9,000-Foot Test Northeast of Denver

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., July 25. — Eight tracts of state land in southeastern New Mexico brought an average of $1.80 an acre at an auction sale of leases. Continental Oil Co.'s No. 17-A-2 Meyers, in the Eunice Pool, flowed 70 bbls. an hour after treatment and extended the pool one-third of a mile to the west. The Gypsy Oil Co. completed a 358-bbl. well in the same pool, and one new location was reported. The Shell Petroleum Corp.'s No. 2-B State, a recent completion in the Hobbs Pool, is believed to have found a deeper pay. The Repollo Oil Co.'s No. 3 Grimes was completed for 551 bbls. Shell's No. 3 Berry made 8,184 bbls. and 6,915,000 feet of gas on a company gauge before treating with acid. Two new locations were staked in the Jal Pool and one well was abandoned in Eddy County and San Juan County had a dry hole.

Location was staked for a 9,000-foot rotary test to the Dakota, 10 miles from Denver. The Mountain Fuel Supply Co.'s No. 4-B Wilson, in the Hiawatha gas field, is drilling deeper after flowing 24 bbls. of oil in 26 hours. The Iles Dome in Moffat County is to have a deep test. The Colorado Oil Refining Co.'s Grand County test had a good show of gas. One new location was staked in Tow Creek.

Practically all storage of black oil in Wyoming has been run to market and pipe line runs from the black oil fields are showing an increase. The discovery of a deep pay in West Mule Creek, in eastern Wyoming, continues to attract attention as a test of the oil shows it to be of 31 degrees gravity. Three completions were reported in the Osage Field. The Wyoming-California Petroleum Co. is moving in for a deep test in Baxter Basin.

Sale of leases in the Blackfeet Indian reservation in Montana resulted in bids up to $81 an acre. Cut Bank had six completions averaging 180 bbls. initial and one new location. The California Co.'s North Pondera test was a failure. More gas was found in a wildcat in the Devon district.

NEW MEXICO

Eunice Area

Continental Oil Co.'s No. 17-A-3 Meyers, C SW NW Section 17-21-36, was completed at a total depth of 3,970 feet in lime and after being treated with 1,000 gallons of acid averaged 70 bbls. an hour on a three-hour gauge, or at the rate of 1,680 bbls. daily, with 1,400,000 feet of gas. It is an outside well on the west side of the developed area and proves up about one-third of a mile. It topped the anhydrite at 1,434 feet, the brown lime at 3,000 feet and the pay at 3,808 feet. The elevation is 3,653 feet.

Gypsy Oil Co.'s No. 1 Bell-State, C SW SE Section 8-21-36, a south offset to the Atlantic Oil Producing Co.'s No. 1-B State, was completed in lime at 3,929 feet with an initial production of 358 bbls. of oil in 24 hours and 1,500,000 feet of gas. It topped the Terry at 3,905 feet, and the elevation is 3,605 feet. This well spudded and was completed in less than 60 days.

One new location was staked in the Tide Water Oil Co.'s No. 2 State-Foster, C SE NE Section 8-21-36, for which rig is being built. It is an offset on the east to the Tidal Oil Co.'s No. 1 State.

Hobbs Area

Shell Petroleum Corp.'s No. 2-B State, NE cor. NW Section 33-18-38, on the east side of the field, which was reported a completion several weeks ago at a total depth of 4,220 feet, is believed by company geologists to be producing a large part of its output from a deeper pay in the lime than the regular producing horizon in the pool. The principal oil saturation was at 4,190 feet to near the bottom at 4,220 feet. The well made 5,156 bbls. initial after treatment with acid. Its location is on approximately the same contour as the Gypsy Oil Co.'s No. 2 Grimes, C SE NE Section 33, which found the pay at 4,009-4,163 feet, and the Continental Oil Co.'s No. 7-B State, C SW NE Section 33, which topped the pay at 4,040 feet and was completed at 4,183 feet.

Repollo Oil Co.'s No. 3 Grimes, SW NW NW Section 28-18-38, was completed at 4,210 feet, total depth, for 551 bbls. first 24 hours with 2,875,000 feet of gas. It topped the Terry at 4,120 feet and the 3-inch tubing was run to 4,200 feet.

A near completion is the Shell Petroleum Corp.'s No. 3 Berry, NE cor. SE Section 31-18-38, which made 8,184 bbls. of oil and 6,915,000 feet of gas in 24 hours on a company gauge at 4,225 feet, total depth. It is standing treated with 1,000 gallons of acid.

One new location was released in the Shell Petroleum Corp.'s No. 4 Grimes, SE cor. SW Section 28-18-38, for which cellar and pits have been dug.

Jal Area

Two locations staked are the Repollo Oil Co.'s No. 2-A Stephens, NE Section 13-25-35, and E. B. Guess' No. 1-B Justis, SW NW NW Section 20-25-37, on the east side of the development.

Cooper Area

Stanolind Oil & Gas Co.'s No. 1 Meyers, SE cor. NE Section 22-24-36, is shut down at 410 feet in sand and shale for water. Phillips Petroleum Co.'s No. 1 Woolworth, NW cor. SW Section 23-24-36, is waiting on cement at 1,429 feet, total depth, after setting the 10-inch at 1,415 feet with 300 sacks. Same company's No. 2 Woolworth, NW NE SW Section 23-24-36, is rigging up rotary, and its No. 3 Woolworth, SW cor. NW Section 23-24-36, is rigging up rotary. Phillips' No. 4 Woolworth, C SW SW Section 23-24-36, is standing with derrick completed. Humble Oil & Refining Co.'s No. 1 Cooper, C NW NE Section 23-24-36, is rigged and shut down for water, and the Texas Co.'s No. 1 Ogg, C SW NE Section 35-24-36, also is waiting for water after rigging up. The General Crude Oil Co.'s No. 2 Meyers, C SE SE Section 22-24-36, is rigging up rotary.

Lea Area

The Texas Co.'s No. 1 Lea, SW cor. NW Section 14-20-34, 3 miles north of the nearest producer in the Lea Pool, swabbed 118 bbls. of oil and 25 bbls. of water in 24 hours at 3,688 feet, total depth, and it will plug back to shut off the water.

Eddy County

R. D. Compton's No. 6 Brainard, C E SE SE Section 5-18-27, in the Compton Pool, was plugged and abandoned at 1,931 feet, total depth. It is one location east of a well completed as a producer some time ago.

San Miguel County

Cabra Springs Oil & Gas Co.'s No. 1 Cabra Springs ranch, SE NE NE Section 22-12n-22, Pino Mesa district, is bottomed at 3,561 feet and is temporarily shut down. The first objective of this test is a limestone member of the Magdalena, expected within the next 300 to 350 feet.

San Juan County

Sanford S. Bashaw's No. 1 Stallings, SW NW NW Section 1-29-16, Hogback district, lost the hole at 767 feet and has plugged and abandoned same. The Continental Oil Co.'s No. 36, SW SW NW Section 12-29-19, Rattlesnake Dome, is drilling at 585 feet.

COLORADO

Adams County

Location has been made and slush pits dug for a 9,000-foot test to the Dakota sand, 10 miles northeast of the city limits of Denver, by Sidney H. Keoughan, the Riddle Petroleum Co., of Oklahoma City, and others in their No. 1, C SW Section 2-3s-66, on what has been designated as the Derby structure. The block, comprising 32,000 acres, was assembled by the Oil Lease Purchase Association, Inc. The structure is in the Denver Basin and the test will be through 5,000 or 6,000 feet of the Pierre shale in which the oil in the Boulder and Florence Fields is found. The contract calls for 9,000 feet of hole, but plans provide for carrying it below 10,000 feet if necessary. The structure as mapped extends from Watkins on the east to Derby on the west and from Barr Lake on the north to Colfax Avenue on the south. The assembling of leases and geological work on this proposed test has been in progress for nearly two years. Details of the plans have not yet been released, but it is reported that efforts are being made to sell spreads around the test to several of the major companies.

Moffat County

Mountain Fuel Supply Co.'s No. 4-B Florence Wilson, C NE NW Section 23-12n-100, Hiawatha Dome, on the eastern flank of the structure and about a mile to the northeast of the discovery well, which resulted in the opening of a large gas field several years ago, is reported to have flowed 24 bbls. of crude oil in a 24-hour test from sand in the lower Wasatch at 2,304-37 feet. The 10¾-inch casing was set at 2,304 feet. Several of the wells on the Hiawatha structure have been reported at intervals within the past two years as showing some oil, but officers of the company have claimed that this was distillate from the gas. After the test, drilling was resumed and at last report coring was in progress at 2,568 feet. The same company has rig com-

Turner Valley Operators Are Discussing Possible Extension to Pekisko Hills

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, July 21. — In South Turner Valley, Pacalta Oils' No. 1, Section 28-18-2w5, is drilling in the Madison limestone below 5,120 feet with a strong and increasing gas flow. In the same section, Mar Jon Oil Co.'s No. 2, LSD 10, has increased production to between 55 and 65 bbls. a day. Publix Oil & Gas Co.'s No. 1, LSD 8, is expected to get the Home sand at 4,320 feet. It is making a little light crude.

In the new southeasterly extension, Highwood-Sarcee Oils' No. 1, LSD 16, Section 21-18-2w5, is 300 feet in the deep lime at 5,680 feet with an increase in gas.

On the east side of the South Turner Valley structure, Nolan-Hungerford Royalties' No. 1, LSD 5, Section 34-18-2w5, has preliminary work done and rotary equipment on location for resumption of the old Rand Petroleum test at 280 feet. On the west side, Mercury Oils' No. 6, LSD 12, Section 4-19-2w5, is reported fishing at 1,945 feet.

According to Alfred Hinds, president of Merland Oil Co., No. 1 well in Section 27-18-2w5, is making a little better than 200 bbls. a day from the lime.

Tests in the Foothills

In the forest reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, LSD 12, Section 13-31-10w5, has resumed drilling from 2,841 feet.

In the old Oil City Field, Waterton Lakes Park, Oil City Royalties' No. 1 Patrick, Section 30-1-30w4, is drilling below 1,600 feet.

Pekisko Hills Test

On the Pekisko Hills structure south of Turner Valley, Pekisko Hills Co.'s No. 1, LSD 6, Section 6-17-2w5, is drilling in the lime below 1,225 feet. It got an additional 1,000,000 feet of gas in the lime, bringing the flow to 2,250,000 feet a day.

Moose Dome Structure

The Moose Dome structure in the foothills area southwest of Calgary, and northwest of Turner Valley, will get a second test. Moose Oils' No. 1, LSD 16, Section 29-22-6w5, was drilled by various interests to 2,834 feet where the drilling was suspended in 1930. It started in the Palaeozoic lime and got the Devonian lime at 550 feet, the log showing nine gas shows between 490 and 2,815 feet and an oil show at 2,220 feet. A Seattle, Wash., group headed by Mr. Clark of the Clark & Thompson lumber interests, is financing a second test to be located not far from No. 1 on acreage owned by R. W. Pilling. No. 2 will use the heavy gas flow from No. 1 as fuel.

Watson Structure

On the Watson structure in the southern foothills, Russell Johnson, geologist, is locating No. 1 test for Mar Jon Oil Co. Tentative location was made some time ago in LSD 16, Section 33-9-2w5, and work will start as soon as definite location is made. Earl M. Craig is president and H. G. Harding secretary. The acreage deal contemplates the drilling of

(Continued on Page 150)

pleted for its No. 1 Murdock, SE cor. NE Section 24-12-100, and is waiting for completion of No. 4-B Wilson. Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, is drilling and underreaming the 10¾-inch at 1,510 feet.

The probability of a deep test on the Iles Dome is seen in the announcement that the Stanolind Oil & Gas Co. is going back into its No. 33-SD Parkinson, SE SW SE Section 22-4n-92. This well was completed by the Midwest in the summer of 1928 at 3,290 feet, total depth, and flowed 960 bbls. initial from the Sundance. Drilling stopped in black shale and it was supposed at the time to have penetrated the Sundance by more than 30 feet. However, it is stated that coring will be undertaken to determine the thickness of the Nuggett formation, of which the Sundance is a member. It is known that about two years ago the Stanolind was giving serious consideration to a projected deep test of the Iles Dome to the Weber, or Tensleep. The last string of pipe run was the 8¼-inch and the hole is approximately on top of the structure.

Routt County

The Colorado Oil Refining Co. has made a location in the Tow Creek Field for its No. 1 State-Oliver, SE cor. NW Section 18-6n-86, an offset to a Texas Co. producer. The Texas Co. is the only operator with production in the field. Mr. Oliver, who has held this lease for several years, died shortly after making a deal for its drilling. The Texas Co.'s No. 5 Carstarphen, NW NE NW Section 5-6n-86, is drilling at 3,580 feet.

The Texas Co.'s No. 1 Sampson, SE NE SE Section 2-1s-85, King Mountain, cemented the 16-inch at 458 feet, and is drilling ahead at 464 feet.

Grand County

The Colorado Oil Refining Co.'s No. 1 Linke, NE SW SW Section 13-1n-77, Granby district, is drilling at 750 feet in shale. At 735-40 feet, in sandy shale, it had another show of gas, the flow being in sufficient quantity to burn when ignited. The first objective is a sand in the Pierre at around 1,200 feet.

Jackson County

Continental Oil Co.'s No. 3 Hoye, NW cor. NE Section 34-9n-78, South McCallum Dome, is bottomed at 520 feet and reaming with 19-inch roller bit at 411 feet.

WYOMING

Practically all the black oil in storage in the Wyoming fields was reported to have been sold and run the past week and the black oil fields have increased their pipe line runs to around 9,000 bbls. a day. The fields now running this grade of crude include Poison Spider, Lander, Frannie, Oregon Basin, Black Mountain, Byron-Garland and Hamilton. The increased demand for this type of crude is credited principally to the use of road oil for highway construction in the several Rocky Mountain states. The Big Horn Basin, where most of the crude is produced, also is experiencing a considerable increase in drilling operations.

Niobrara County

The discovery of oil in a deeper horizon on West Mule Creek in the Interstate Oil & Refining Co.'s No. 1 Morrell, NW NE SE Section 2-39-61, continues to attract attention although it probably will be a week or two before it is known just what the well will do. It topped a sand at 2,838 feet and was drilled to 2,840 feet, the oil rising 500 to 600 feet in the pipe. A sample of the oil received in Denver by Charles T. Lupton, geologist, who spotted the well, tested 31 degrees gravity and is very low in sulphur content.

The Bawser-Satterfield Syndicate, of Parkersburg, W. Va., has resumed operations on the Sage Creek structure in its No. 1 West Virginia, NE cor. NW Section 7-35-62, which has been shut down for four years at 1,527 feet.

Weston County

Three completions were reported in the Osage Field. The Chadron-Osage Oil Co.'s No. 4, N SW SW Section 13-46-64, found a broken sand at 1,410-50 feet showing a little oil and 100,000 feet of gas. It has been completed and shut in as a gas well. C. L. Nichols' No. 5, E SE NW Section 8-46-63, was dry at 450 feet. The Homestake-Osage Oil Co.'s No. 5, NW SE Section 13-46-64, is swabbing 7 bbls. daily from sand at 1,420-50 feet.

Carl Cunday's No. 8, SE NW NE Section 31-46-63, topped the pay at 1,380 feet and oil rose 200 feet in the hole. It shut down to run casing before drilling in. L. C. Peckham's No. 1, NW cor. Section 19-46-63, is ready to run casing through the Greenhorn. This well is on a lease drilled and abandoned by the Midwest Refining Co. several years ago on account of the excessive royalties provided for in the lease.

Frank V. Eaton, an old-time Pennsylvania oil man and friend of the late Patrick C. Boyle, founder of The Oil and Gas Journal, is again keeping us informed on Osage operations after spending five weeks in Washington and Harrisburg, Pa.

The Osage Refining Co. is now running 500 bbls. of crude daily, but has not yet tested out the cracking unit which has just been completed.

Albany County

Ohio Oil Co.'s No. 1 Chappell, C SE NW Section 28-21-76, East Rock Creek, is drilling at 3,780 feet in shale and about through the red beds.

Carbon County

Ohio Oil Co.'s No. 1 Morris, C NW SE Section 6-20-77, Diamond Dome, is drilling at 1,580 feet, and Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 4,936 feet in blue sandy shale. The Sinclair-Wyoming Oil Co.'s No. 4 Wertz, SW cor. SE Section 7-26-89, Wertz Dome, has cemented the 6¼-inch on top of the Sundance at 3,528 feet. It has a show of gas. This test, an old well drilling deeper, was deepened to 3,541 feet in 1931 and since then, except for intervals when it was down, efforts have been made to clean the hole of bits, iron and pipe and straighten it and get down to the Sundance. It now looks as if it will reach the objective without much more delay. The Petroleum Exploration Co. of California's No. 2, SW SE SW Section 29-23-88, Buck Springs district, is drilling at 1,978 feet.

Fremont County

Tropic Oil Co.'s No. 1 Government, C SE SW Section 34-27-90, Lost Soldier district, is underreaming the 6¼-inch to the top of the Dakota at 1,900 feet where it had a show of oil. The Monongahela Oil Co.'s No. 1 Wisda, NE SE SE Section 13-28-93, Crook's Gap, is drilling at 2,200 feet and is estimated to be 500 feet off the Frontier. The Mid-American Oil Co.'s No. 1 Government, C S NE SW Section 4-28-92, Sheep Creek, is moving in materials for its test to the Tensleep.

Sheridan County

The Sheridan Syndicate's No. 1 Allison, SW SE Section 15-55-85, Beaver Greek, is drilling at 1,150 feet.

Big Horn County

Ohio Oil Co.'s No. 2 Byron-Union, C SE NE Section 22-56-97, Byron Dome, is drilling at 1,350 feet in shale, and the California Exploration Co.'s No. 1 Government, NE SE NE Section 12-44-97, Waugh Dome, is drilling at 1,800 feet.

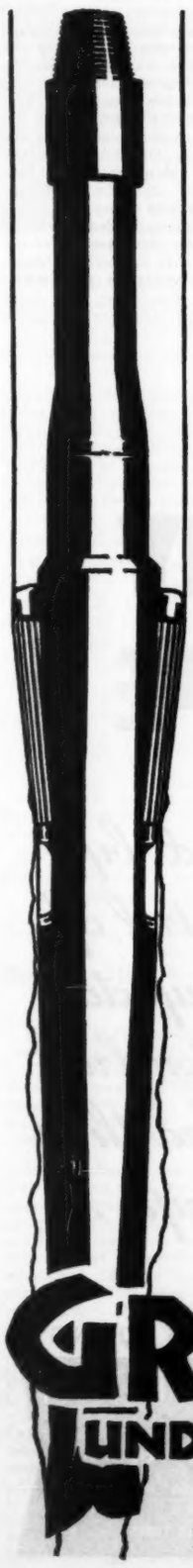
Sweetwater County

Wyoming-California Petroleum Co. is moving in for a deep test in the W half Section 11-16-104, South Baxter Basin Field. Last winter this company completed a 35,000,000-foot gas well in Section 23-17-104, in the Frontier. This well was intended as test to the Tensleep, but mechanical difficulties developed and the hole was plugged back from 4,111 feet and completed.

MONTANA

Oil and gas leases on 10 tracts in the Blackfoot Indian Reservation immediately to the west of development in the Cut

SENSATIONAL *New* UNDERREAMING METHOD • • • • •



Does ALL the Work—
Costs HALF the PRICE

Industrial methods have progressed at an amazing pace during the past few years, and nowhere has this progress been so marked as in the petroleum industry.

And . . . where a new idea is developed GRANT Oil Tool Co. is always first to present it to the rest of the industry.

So . . . when a well known oil man connected with an internationally known oil company, discovered a new method of using the GRANT underreamer, we felt that it should be of vital interest to every oil producer to know about it.

This method cuts costs so radically both as to time consumed and materials used that it deserves your earnest consideration.

So we do not hesitate to say to the hard-boiled skeptic, the hoper and the croaker

Here's Assured Economy for You

Don't take our word for it. We will be glad to put you in touch with oil producers now using this modern method. Let them tell you their side of the story . . . and the immediate results obtained.

—and remember—

GRANT makes tools that can handle *any* job in the field . . . and do them quickly, safely and economically.

GRANT UNDERREAMERS

2042 East Vernon Avenue
LOS ANGELES, CALIF.

Bank Field were offered for sale at auction at Browning on July 10 with no bidders for one tract, four tracts bringing from $1 to $1.15 an acre bonus and five tracts being bid in for higher figures. J. W. Johnson, representing the British-American Oil Co. interests, was high bidder on five tracts. The best sale was $81 an acre for Tract 3, which offsets several producing wells of the Texas Co. located close to the reservation boundary on the Antrim tract. The bids were as follows:

Tract 1—Lots 5, 6 and 7, Section 10-34-6w, 135.31 acres, J. W. Johnson, $5 an acre.

Tract 2—Lots 8, S half SW Section 10-34-6w, 124.81 acres, J. W. Johnson, $36.50 an acre.

Tract 3—Lot 5, NE NW Section 34-35-6w, 85.5 acres, J. W. Johnson, $81 an acre.

Tract 4—Lots 6 and 7, SE NW, NE SW Section 34-35-6w, 170.6 acres, J. W. Johnson, $56 an acre.

Tract 5—Lot 8, SE SW Section 34-35-6w, 170.98 acres, J. W. Johnson, $36.50 an acre.

Tract 6—NW, Lots 5 and 6 Section 34-34-6w, John W. Colburn, of Cut Bank, 250.28 acres at $1 an acre.

Tract 7—Lots 7 and 8, SW Section 34-34-6w, no bid.

Tract 8—Roland Harper allotment, 320 acres in Sections 21 and 26-34-6w, Charles D. Fist, $1.15 an acre.

Tract 9—John Harper allotment, 320 acres in Section 28-34-6w, W. R. McDonald, of Browning, $1 an acre.

Tract 10—Donald Hagerty allotment, 60 acres in Section 16-34-6w, Charles D. First, $1 an acre.

The leases call for the starting of one well within 90 days from date of approval and 2 wells within a year, and necessary offsets. With required offsets, the leases will call for 21 wells, or compensating royalties, within a year.

Glacier County

Six completions with a total initial production of 1,075 bbls., or an average of 180 bbls. each, were reported in the Cut Bank Field. This was better than the average for initial production.

The best completion was R. C. Tarrant's No. 1 Jones, C SW SE Section 31-34-5w, 1½ miles to the northeast of the town of Cut Bank and 1 mile to the northwest of the Montana Power Gas Co.'s No. 1 Simero. It is in the southeastern part of the field where only a few isolated wells have been drilled and while it does not prove up any extension of the pool it does show that considerable undeveloped territory may yield good wells. It swabbed 252 bbls. the first 10 hours. Sand record has not yet been received, but the 7-inch was cemented at 2,735 feet and the top of the Cut Bank sand was at 2,787 feet.

Another good well was the Santa Rita Oil & Gas Co.'s No. 2 Hardy, Lot 6, SW NE Section 27-35-6w, on the west side of the development. It found the pay at 2,901-20 feet and was completed at 2,922 feet. It made 165 bbls. the first 12 hours and 252 bbls. the next 24 hours.

P. B. Anderson and others' No. 1 Anderson, SW cor. NW Section 26-35-6w, swabbed 120 bbls. a day initial from the pay at 2,840-78 feet, and a total depth of 2,888 feet.

The Texas Co.'s No. 1 Kearns, C W SW NW Section 23-35-6w, flowed 107 bbls. first 19 hours and then quit. On the pump it made 86 bbls. first 13 hours. Total depth is 2,851 feet and the pay was at 2,830-45 feet.

The Texas Co.'s No. 4 Antrim, C Lot 3 (NE SE) Section 34-35-6w, swabbed 159 bbls. in 24 hours at a total depth of 2,918 feet.

Nadeau Brothers' No. 3 Van de Mar, W SW NW Section 35-35-6w, swabbed 156 bbls. first 14 hours from pay at 2,911-20 feet and a total depth of 2,935 feet.

The only new location is the Santa Rita Oil & Gas Co.'s No. 4 Whetstone, C Lot 2, Section 22-35-6w, which is rigging up.

Alberta-Pacific Consolidated Oil Co.'s No. 4 Matson, W SW NW Section 14-34-6w, topped the pay at 2,924 feet, set the 7-inch at 2,899 feet and drilled to 2,935 feet. It has not yet been tested. Annand & Hutchings' No. 1 Bonnett, NW cor. SE Section 10-32-5w, is drilling by pipe at 2,875 feet, and the same firm's No. 1 Federal Land Bank, NW cor. SW Section 11-34-6w, is drilling at 1,545 feet. A. B. Cobb's No. 3 Walberger, NE SW SE Section 35-35-6w, is drilling at 1,325 feet.

Dakota-Montana Oil Co.'s No. 1 Winkler, C NW NW Section 26-35-6w, is drilling at 1,125 feet.

Grant Oil Co.'s No. 2 Yunck, C SW SW Section 14-34-6w, is drilling at 380 feet.

Indian Oil Co.'s No. 1 fee, C SE SE Section 4-34-6w, is drilling at 2,655 feet, and its No. 1 Reickhoff, SW SE Section 3-34-6w, is standing rigged.

Montana Headlight Oil Co.'s No. 2-A Williams, C NE NE Section 11-34-6w, is drilling at 905 feet, and its No. 2 Yunck, C NW SW Section 1-34-6w, is drilling at 2,570 feet. Montana Power Gas Co.'s No. 1 Fuller, near C SE Section 17-35-5w, cemented the 7-inch at 2,917 feet and is ready to complete. Same company's No. 1 Hawkins, C SW Section 17-33-5w, is drilling at 2,270 feet, and its No. 1 Whetstone, C SE NE Section 7-33-5w, is drilling at 2,130 feet.

Nyhagen-Bell's No. 3 Anderson, NE NW SW Section 26-35-6w, is drilling at 275 feet.

Par Oil Co.'s No. 3 Haines, SW cor. Section 2-34-6w, has 900 feet of oil in the hole at 2,915 feet from sands at 2,825-38 and 2,879-2,903 feet. The P-M-K Petroleum Co.'s No. 1 Matson, C NW NW Section 14-34-6w, topped the Colorado at 545 feet and cemented the 10-inch at 610 feet. The Producers Development Syndicate's No. 1 Eniarson, SW NW NW Section 29-32-4w, deepened the hole from 2,697 feet to 2,720 feet and shut down. This location is 3½ miles southeast of the nearest producer.

Santa Rita Oil & Gas Co.'s No. 3 Whetstone, C NE NE Section 27-35-6w, is drilling at 2,340 feet.

R. C. Tarrant's No. 2 Getty, NW cor. SE Section 2-34-6w, topped the Colorado at 480 feet and is drilling at 1,175 feet. The Texas Co.'s No. 1 Consolidated gas lease, near C Section 15-35-5w, is bottomed at 2,719 feet and preparing to run the 7-inch, and its No. 4 Hinkle, C SE NE Section 2-34-6w, is drilling at 2,614 feet. Same company's No. 2 Kearns, W NW NW Section 23-35-6w, cemented the 7-inch at 2,800 feet with 60 sacks, and its No. 1 M-358 Morrison, Lot 5, Section 22-35-6w, is drilling at 1,590 feet. The Texas Co.'s No. 4 Purdy, SW SW Section 35-35-6w, is waiting on spudder at 2,899 feet, and its No. 1 Schlag, C SW SW Section 26-35-6w, pumped only 3 to 4 bbls. a day after being shot five times and is temporarily abandoned.

International Pipe Line Co. (Texas Co.) has begun running oil from the Cut Bank Field to the International refinery at Sunburst through the new 30-mile line.

Liberty County

J. H. Hamilton and others' No. 1 Northern Farms, C NE SW Section 10-37-5e, Flat Coulee, is drilling at 750 feet.

Teton County

Ned Cheadle and others' No. 1 Balsinger, NE SE NW Section 20-27-5w, West Pondera, is shut down at 1,970 feet (cor.) for pipe.

Pondera County

The California Co.'s No. 1 Northwestern Properties Co., SW NE SE Section 20-28-4w, North Pondera, topped the Madison at 2,870 feet and encountered sulphur water. It was drilled to 2,920 feet, and probably will be abandoned. The Cut Bank sand was not encountered. This wildcat is located 5 miles to the southwest of the Pondera Field. Barmac Oil Co.'s No. 1 Bruning, C SW SW Section 1-31-5w, Valier district, is drilling at 1,700 feet.

Petroleum County

Minnesota-Flatwillow Oil Co.'s No. 1 Farrell, C SW SW Section 5-15-29, Cat Creek, which has been standing at 980 feet for the past year, has resumed and is running the 8¼-inch to bottom.

Phillips County

Montana Utilities Gas Co.'s No. 1 Styles, C NW NW Section 23-31-42, Bowdoin district, is drilling at 500 feet.

Carbon County

Ohio Oil Co.'s No. 14 Maddox, C NW NW Section 10-7s-21, Dry Creek, is drilling and coring at 4,685 feet.

Cascade County

Ralph Chamberlain and others' No. 1 Heldman, near C SE Section 6-19-2w, is drilling at 450 feet.

Toole County

In the Devon district Thelan & Freeman's No. 1 Johnson, NW NE NE Section 29-33-2e, encountered more gas, the total being 4,500,000 feet from sands at 798-820 and 885-895 feet. This is the largest gas so far encountered in the several tests in this district. C. Leonard Smith and others' No. 1 McDonough, NW cor. Section 17-33-2e, is shut down at 1,570 feet and preparing to shoot.

In the Kevin-Sunburst Field, there is a noticeable increase in drilling. The Texas-Pacific Coal & Oil Co. again is becoming active and has made a location for its No. 11 Howling, SE NE Section 9-35-2w. Vanderpas-Hepstad's No. 8 Helgerson, NW NW Section 28-35-1w, has rig up, and E. R. McKee's No. 1 McKee, NE SE Section 24-35-2w, is drilling at 250 feet. A. C. Crumley's No. 4 Fryberger, SW SE SW Section 24-35-2w, is a location, and the C. C. Operating Co.'s No. 1 Fryberger, SE cor. SW Section 24-35-2w, is a location.

OIL MEN LEND FARMERS PUMPS

The continued drought throughout the Middle West has so lowered the water level many streams are dry or nearly dry. Hundreds of water wells have failed and it is necessary for the farmers to put in a good portion of their time hauling water from such streams as still contain any moisture.

To get this water it is necessary to use some type of pumping equipment and Governor Alfred M. Landon, who was an independent oil producer, has called upon pipe line companies and contractors for the loan of their portable "pick-up" pumping units to be used for lifting water from the streams and delivering it into the tanks on the farmer's trucks and wagons.

ALLEGHENY STEEL PIPE

Backed by 100% control of every manufacturing operation from the open hearth to finished pipe ...

LAPWELD PIPE ... ... SEAMLESS TUBING

ALLEGHENY STEEL COMPANY
BRACKENRIDGE . . . PENNA.
Sales Offices and Warehouse Stocks in the principal cities
ALLEGHENY PRODUCTS SHEETS for Automobile Bodies, Metallic Furniture, Deep Drawing ALLEGHENY METAL . . . ALLEGHENY ALLOYS . . . ELECTRICAL SHEETS . . . STEEL CASTINGS . . . SEAMLESS TUBING . . . BOILER TUBES . . . PIPE

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Specifications of the Various Grades of Fuel Oil

Will you please give the specifications of the different grades of fuel oil?—F. E. W.

FUEL OIL SPECIFICATIONS

	Navy Standard	Bunker A	Fuel B	Oil C
Fl., min.*..	150°F.	150°F.	150°F.	150°F.
Vis. Furol, secs.	100 at 77°F.	100 at 77°F.	100 at 122°F.	300 at 122°F.
Sul., % ...	1.5	...	...	...
Wtr. and sed., % ..	1.0	1.0	1.0	2.0 (sed. 0.25)

*All flash tests are to be made in the Pensky-Martins closed tester.

All fuel oils have to be of good quality and meet the general specification. This is:

"Fuel oil shall be a hydrocarbon oil, free from grit, acid, and fibrous or other foreign matters likely to clog or injure the burners or valves. If required by the purchaser, the oil shall be strained by being drawn through two or more filters of wire gauze of 16 meshes to the inch. The clearance through the strainer shall be at least twice the area of the suction pipe and the strainers shall be in series."

These specifications are from U. S. Bureau of Mines, Technical Paper 323B, now obsolete, and are to be replaced by Federal specifications in the Federal Standard Stock Catalog which is in preparation.

Cracking of Gas for Benzene and Other Aromatics

Is it possible to obtain profitable yields by cracking residue gas from natural gasoline plants? Could you outline the reaction which takes place when cracking butane alone or with propane? What effect have temperature and pressure and is a catalyst necessary to complete the reaction? If you can inform me as to the books or literature dealing with the subject I will appreciate it very much.—L. A. D.

Natural gas is in the main methane, the other hydrocarbons present being found in relatively small quantities, and to convert this substance to benzene would require at least six molecules of methane to one of benzene produced. However, many times the ratio of 6 to 1 would probably have to be used, because the quantity of benzene formed would in all instances be a very small percentage of the original. The tendency of methane, CH_4, is to produce carbon and hydrogen when the compound is heated to a very high temperature.

It is well established that for a mixture of hydrocarbons, such as are present in natural gas, extremely high temperatures have to be employed to produce decomposition. Naturally the higher the molecular weight of the starting substance the easier it is to obtain decomposition. It is also known that the normal behavior of the paraffin hydrocarbons, of natural gas and petroleum, are converted under heat treatment to smaller groups of the same type and that the conversion of the paraffin hydrocarbons to the larger molecule of the aromatic type takes place slowly and only on a small scale when treated under favorable conditions. Hurd, in the Pyrolysis of Carbon Compounds, page 50, reports experiments covering the decomposition of methane. At 985° C. (1,805° F.) 8.8 per cent hydrogen was formed in one minute and 54.9 per cent in the same time at 1,150-60° C. (about 2,150° F.), and maintaining the same temperature for 180 minutes 90.85 per cent hydrogen was formed. This is at normal pressure and is too high for operation with metal so refractories must be used. Pressure would simply tend to reduce the time.

Walter J. Podbielniak, in The Oil and Gas Journal, May 14, 1931, page 22, in the article "Cracking of Gases on Commercial Scale," states "To date, however, there is no published account of any successful process for the cracking of high methane containing gas for aromatics. It is known that one company is successfully cracking ethane and possibly heavier hydrocarbons to produce ethylene. There is also no record of any successful process for the maximum production of aromatics from either methane or ethane-propane-butane mixtures. The process of 'reforming' natural gas into lower heating value gas more suitable for distribution, as practiced on the Pacific Coast, is not suitable for recovery of by-products."

Doctor Podbielniak made a series of experimental runs in which the vent gas from a stabilizer, essentially propane, was passed through a continuous tube-type furnace under different speeds and temperatures. The maximum yield of benzol and heavier aromatics was obtained at temperatures between 1,650 and 1,750° F. Mixtures of propane and butane would give higher yields than those reported. The highest yield of aromatics was 2.7 gallons per 1,000 cubic feet from a gas containing—propane 75.2 per cent, butane 11.5 per cent, and ethane 10 per cent. The cracking temperature was 1,740° F. No catalyst was used. Contrary to previous reports the formation of hydrogen was below 5 per cent; thought to be due to the high velocities.

The cracking of high methane containing residue gas from a natural gasoline plant gave low yields of products at the highest cracking temperatures used and was therefore discontinued early in the course of the investigation. Thereafter, only stabilizer vent gas was experimented with in order to thoroughly investigate the effect of varying operating conditions on the yield of products and especially to find the proper conditions for maximum yield of (a) aromatics and (b) ethylene. It was found that ethylene was the predominant olefin formed in cracking. The yield of aromatics and of ethylene was a function of both the cracking temperature and time of heating at cracking temperatures. For both aromatics and for ethylene, the maximum yields were obtained within a narrow temperature range, namely 1,650 to 1,700° F. for aromatics.

The cost of a plant handling a daily charge of 1,000,000 feet of vent gas, excluding recovery plant, should not exceed $70,000.

References by Podbielniak are:

"Pyrolysis of Carbon Compounds," by Hurd.

Stanley, J., Inst. Petr. Tech. 15, No. 76, pages 516-552 (October, 1929).

Stanley and Nash, J. Soc. Chem. Ind. 48, No. 2, pages 1T-8T (January 11. 1929).

Burrell, National Petroleum News, January 9, 1929.

Cantelo, J. Physical Chem., 31, 124, 246, 417 (1927).

Osterstrom and Wagner, paper delivered at tenth annual meeting, American Petroleum Institute, Chicago, December 4, 1929.

Podbielniak, The Oil and Gas Journal, page 235, October 2, 1930.

The Pyrolysis of Carbon Compounds, by Hurd, is available through the Book Department of The Oil and Gas Journal.

Blending Naphthas Not Quoted on Close Specifications

Please give me the properties of the blending naphtha which is quoted in The Oil and Gas Journal from week to week. If there is no fixed specification for this material I would appreciate an approximate specification.—F. E. W.

All petroleum products are as a general practice sold on the basis of the simplest of specifications, because when many requirements are to be met the price is advanced to cover the additional expense that is involved in the required additional refinery operations and the extra inspection that is necessary. A specification for a petroleum product under gravity and endpoint will in most cases be found to be satisfactory, especially when there is a well established trade practice to apply as an additional factor.

Blending naphtha, as quoted on the Chicago market, is based simply on a minimum gravity of 50° A.P.I. and a maximum endpoint of 450° F. The product as supplied by the refiners is usually between 25 and 30 Saybolt color; doctor sweet; noncorrosive; sweet odor; and has an initial boiling point ranging between 140° F. and 200° F.

Chlorinated Compounds for Lub Oils by Solvent Processes

Are you familiar with the practice of treating lubricating oil with chlorinated compounds? Can you tell us just what benefits result from the treatment and if there is also danger from a chlorinated oil causing corrosion? Some chemical companies have developed chlorinated compounds for which they make wonderful claims as to its ability to improve the quality. If there is any information that you can give us regarding this development it will be greatly appreciated.—J. S. H.

Efforts were made in the very early days of petroleum refining to destroy color and otherwise improve the quality of petroleum products by the use of chlorine. Its use for the bleaching of cotton naturally suggested the possibilities for purifying petroleum oils. A number of United States patents describing the use of chlorine in some form for petroleum refining were issued prior to 1880. The earliest appeared in 1866.

With the great increase in the demand for gasoline many attempts were made to simplify the treating, with the result that in many instances essential steps in the operation were omitted, and largely because of a lack of knowledge of the chemistry involved. Should there be an excess of chlorine there is danger of chlorination, which means that chlorine is available to form both hydrochloric and hypochlorous acids. This reaction will take place in the presence of moisture. Also, chlorine may react with some compounds, such as the mercaptans and disulphides, to produce sulphonic acids; and also in the presence of hydrogen sulphide, there are small quantities of sulphuric acid formed. This condition is worse than if the original sulphur were permitted to remain in the product.

Within recent years much attention has been given to the treatment of light oils with chlorine and the conditions for its application are well understood. Chlorination may be prevented if the alkali content of the solution is maintained between 0.5 and 3 grams of free caustic soda per liter; that is 0.17 to 1 pound per barrel of solution. There should always be a final wash with water and a weak solution of caustic soda.

The conditions that have been established with respect to the treating of the light oils will be found helpful when making use of chlorine or a chlorine compound for the refining of lubricating oils. The attention now being directed to solvent processes for the manufacture of high quality lubricating oils has caused many different chemicals to be suggested, among them being chlorine and chlorine carriers. The dichloroethyl ether or chlorex process of the Carbon & Carbide Chemical Corp. and the S. N. trichlorethylene process of the Separator-Noble Co. are examples. These processes have for their object the manufacture of lubricating oils of exceptional quality. The wax is removed so that oils with pourpoint much below zero F. are made. Carbon residue is reduced, sulphur practically eliminated, and viscosity, especially as expressed in terms of viscosity index, considerably increased. For a review of solvent extraction methods, with bibliography, see The Oil and Gas Journal, March 29, 1934, Page 44.

The chemistry of chlorine treating is well covered in the book, "Chemical Refining of Petroleum," by Kalichersky and Stagner.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Not Likely That Scales on Boiler Tubes Sealed Holes in Them

I am operating a 15-bbl. oil well and using a 30 h.p. boiler for steam for a 10x2½x10 steam pipe line pump. The water we have for the boiler comes from a well and it is a little salty and it eats small holes in the flues. I used water out of a small creek for a year, and the flues corroded over and did not leak for some time. Is there some chemical I can put into this water from the well to cause the flues to corrode over again?—O. S. W.

It is suggested that you get a representative sample of this water and have it analyzed by a chemist with the request that he report to you upon the treatment needed.

Your theory that a scale was formed on the boiler tubes and that the scale sealed holes eaten through them hardly seems tenable. If you will stop to think that heat and pressure within the boiler would tend to blow any scale out of a hole in a tube you will realize it is more than probable that the gyp or lime was deposited and when cleaned off the hole was created.

In any event it is not good boiler practice to attempt to seal up corrosion pits with scale and it is not good economy either.

The feed water can be treated before it enters the boiler and scale that may have deposited can be removed and fresh scale prevented from forming if the proper treating compound is selected. You do not tell the pressure you are carrying on this small boiler but it is our suggestion that you take no chances and secure the recommendations of a good water chemist promptly.

How Did Salt Get Into Oil-Field Waters and Into the Ocean?

By what sort of process did salt water come into existence? I mean not only salt water of the oil field, but the salt water of the ocean. I suppose there is a close relationship between the two. Perhaps some of your petroleum geologists will be willing to take time to explain this subject, which is of interest to me. —D. S. F.

An article by J. Terry Duce, manager of the Texas Petroleum Co., which was published in the Texaco Star, provides an answer to your question:

"Geologists believe that almost all brines may be traced back to sea water. It is probable, however, that in the beginning of geological history the ocean had very little salt in it. As rain water dissolved some of the minerals in the earth's rock, this was carried to the sea by rivers and smaller streams. Gradually this mineral matter was concentrated to form the present sea water. Geologists and chemists find that rivers today carry almost 2,000,000,000 tons of mineral water in solution down to the sea every year. The sun evaporates the sea water and carries it back to the land again in clouds, where it falls as rain and again picks up its load of mineral salts. Thus the earth is really being slowly dissolved and carried down to the sea.

"Many of the substances which can exist in the very weak solutions of river water are precipitated out by the time it is concentrated to the strength of sea water, and the animals and plants that live in the sea help in this process. Calcium forms the bones of fish and the sea shells and the skeletons of corals. Silica forms the skeletons of some sponges and the framework of the free-swimming plants—diatoms—while iron is an important constituent of the minute plants belonging to the algae.

"From these processes have been formed the limestones and iron ores of today. However, the more soluble substances remained behind in solution. Only 2,200 parts in every 1,000,000 parts of river water are solids, while in sea water 35,000 parts per million are solids. Sea water is therefore about 17 times as concentrated as river water. Sea water is really formed by the natural evaporation of river water.

"Now, let us look at the history of our oil field brine. First we must go back to geologically Cambrian times, taking eastern Oklahoma as an example. The region was a fairly level plain, whose surface was principally granite rock. At some time it was invaded by a sea, and a thin sandstone—the Reagan standstone —was laid down on top of the granite. This was followed by a deepening of the sea and the deposition of a very thick limestone formation—the Arbuckle. On top of this came the Simpson formation, alternating limestones, sandstones and shales.

"Then the sea withdrew and, in the Tulsa area, these formations were gradually worn down. At Tulsa the erosion almost reached the limestone. In some districts in northern Oklahoma the Arbuckle was deeply eroded.

"Let us imagine ourselves back in the Tulsa area in late Devonian time. It was probably a low, rolling plains country, with the beginning of forests. The monarchs of the land were the insects, who were just beginning to appear. Under this plain surface the ground-waters were busy on the limestone and dissolved much of the more soluble parts of it, leaving it highly porous.

"Time passed, and in late Devonian or early Mississipian time the sea again invaded the area, and the sea water must have filled all the pores in the limestone, penetrating down it wherever erosion had reached. Finally in this sea was deposited a black mud, rich in organic matter, that now forms the Chattanooga shales, and which effectually sealed into the cavernous Arbuckle and the overlying Simpson the salt water circulating in them. On top of that, later seas laid down more sediments, and the whole country was gently folded."

Driller in Turner Valley Has to Overcome Many Difficulties

I would like to know whether cable tools are used in drilling in the Turney Valley Field of Canada. Does drilling in that area present any unusual problems? Can you tell me something about drilling costs? Is the gas pressure extraordinarily high? I would appreciate information as to how the gas is handled. Has any estimate been made as to the probable life of the Turner Valley Field?—R. W. O.

Both rotary and cable tools are used in the Turner Valley Field. Drilling in that area is accompanied by difficulties. Not only are the pay horizons deep, wells averaging about 5,500 feet, but the formations are hard and highly inclined, and gas pressures up to 2,000 pounds per square inch must be contended with. The diamond drill is used in conjunction with rotary drilling in bringing in wells. As a result of hard conditions met in this field it costs about $125,000 to drill a well.

Oil in commercial quantity was found first in Turner Valley in 1914 and it is estimated that under the present conditions of production the field will have a life of about 8½ years.

The gas, a rich wet type, is piped to separators where, against back pressures that range as high as 500 pounds in the wells, it is allowed to expand. In the course of this process the naphtha is condensed out. Part of the tail gas, containing about .2 gallon per 1,000 feet, is scrubbed to eliminate its disagreeable odor of sulphur and then it is piped to Calgary. Most of the gas, however, is burned in flares in the field.

The enormous waste of the gas in this way, amounting at the peak to 500,000,000 feet daily, equivalent in calorific value to 100,000 bbls. of crude oil, was the subject of an investigation by the provincial government of Alberta. Interesting facts were established in the course of this investigation. Among these were the fact that the gas oil (naphtha) ratio varies between 23,700 and 2,043,000 feet of gas per barrel of naphtha. Twenty-three of the eighty-four wells in the field at the time were capable of producing under a back pressure of two-thirds of their closed-in pressure some 72.8 per cent of the total naphtha production of the field, with a gas consumption of only 37.6 per cent of the total gas flow, the 23 wells in question having gas ratios ranging from 23,700 to 118,000 feet per barrel of naphtha. As a result of the investigation the gas production of each well was restricted to 40 per cent of its open flow.

Acquiring Facts About Formation by Electrical Measurements

A few years ago I noticed several articles in the petroleum technical publications about an electrical prospecting method that was developed in France, as I now recall, and tried out in Venezuela and this country with varying degrees of success. Quite recently I again note that there is considerable interest in what is called "electrical coring" and wonder if there is any connection between the older and this more recently described methods?—D. I. O.

There are a number of electrical devices used for geophysical prospecting and in connection with production after oil and gas are discovered, but from your description it is believed you refer to the Schlumberger electrical coring process developed by Prof. C. Schlumberger of Paris about 1913. One of his earliest practical undertakings in this line was carried out in the field at Fierville-la-Campagne, Normandy, in 1912.

This method consists in determining the lithological character and fluid contents of the formations penetrated by the drill, by means of electrical measurements made inside the hole in its uncased part. Ohm's law for the conduction of a small current is the basic principle of this method.

The resistance between two electrodes, measured for convenience in terms of potential drop, varies in a fluid column of varying chemical and physical characteristics. The measurements are presented in the form of two logs indicating the resistivity and the porosity of the different beds penetrated by the hole.

The correct interpretation of these logs is a delicate matter, and generally requires the services of an expert. The usual geological information obtained from drilling a wildcat well when supplemented by electrical-coring data greatly facilitates stratigraphic correlation. The regularity of the two parameters, resistivity and porosity, over large areas in certain locations also indicates that accurate and dependable correlation can be made even between holes located well apart.

Why Was It Called That?

BREA

Brea, the name of a town and of an oil field near Los Angeles, in California, is taken directly from the Spanish "la brea," mineral tar, immense deposits of which distinguishes the locality. This tar pit has served as a natural museum for the preservation of bones of animals which wandered over this planet long before the time of man. Skeletons of the mastodon, camel, saber-toothed tiger and hundreds of other specimens of ancient wild life, including birds, have been discovered.

NATURAL GAS DEVELOPMENTS

Commission Investigator Suggests Federal Control

WASHINGTON, D. C., July 23.—Testimony purporting to show need for further regulation of the natural gas industry, possibly by Federal legislation, was presented in the Federal Trade Commission's utility inquiry by J. W. Adams, commission investigator, in the course of his report on the Columbia Gas & Electric Corp., operating in Kentucky and Ohio. Mr. Adams said the relatively untrammeled development of the gas industry had permitted its major members to attempt to obtain future domination of resources at the cost of the consumer. He found, however, that Columbia, or other companies, could not be blamed for seeking future protection against the loss of resources, but deplored that such necessity existed.

The companies seek to protect supplies by leasing gas fields but not drilling them until demand develops. The costs of such leasing are usually carried as current expense, Mr. Adams testified, with the result that costs are higher than might be expected with consequent higher rates to the consumer. Such leasing also tends to prevent others from entering particular gas fields.

"The effect is," Mr. Adams said, "to saddle present consumers with all the expense of carrying reserves for consumption possibly 25 years in the future and possibly by a wholly different consumer group."

Mr. Adams found that the companies "quite naturally take a defensive position" against extension of regulation and that state regulatory bodies are without sufficient authority to regulate production "in such a way as to eliminate the competitive necessity for carrying large gas reserves for future operations."

For that reason, Mr. Adams suggested, both company and public interests might be better served by the extension of regulation.

"The problem involved must be faced," he said, "even though it may be necessary to attack it through Federal regulation."

Gas Revenues Continue Gains in Five Months

For the five months ending May 31 manufactured and natural gas revenues aggregated $326,326,400, an increase of 3.1 per cent over the corresponding period of 1933, it was announced by Paul Ryan, chief statistician of the American Gas Association. Revenues from domestic customers were practically unchanged. Revenues from industrial and commercial users, however, increased more than 15 per cent over the first five months of 1933.

For the month of May, 1934, manufactured and natural gas revenues aggregated $56,483,100, as compared with $55,420,200 in May, 1933, an increase of 1.9 per cent.

Revenues from gas sales to industrial-commercial users registered a pronounced upturn, aggregating $15,162,400 in May, an increase of nearly 17 per cent over the same month a year ago.

Revenues from sales for domestic uses, such as cooking, water heating, refrigeration, etc., were still 2.6 per cent below May, 1933.

Manufactured gas industry revenues in May totaled $32,312,900, practically the same as for the corresponding month a year ago. Revenues from industrial and commercial users of manufactured gas gained 5.6 per cent. Revenues from domestic uses were down 1.8 per cent.

A somewhat similar situation was reflected in the reports of the natural gas companies. Total revenues in May amounted to $24,170,200, a gain of 3.9 per cent over a year ago. Revenues from industrial uses aggregated $7,632,100, representing an increase of nearly 35 per cent. Revenues from domestic users of natural gas, however, registered a loss of 6.3 per cent.

Additional Tests Prove Restoring of Gas Plan

Recent additional tests have established the practical usefulness of the method originally suggested in April by Frank L. Chase of Dallas, Tex., for restoring natural gas back into the ground as a means of preventing a daily wastage of 1,000,000,000 feet of gas a day in the Texas Panhandle. Mr. Chase is vice president of the Lone Star Gas Co. and chairman of the Natural Gas Department of the American Gas Association.

The wastage of natural gas in the Panhandle Field is the result of a state law, commonly called the "sour gas" law, which permits gasoline stripping plants to extract natural gasoline from the gas and blow the residue, about 97 per cent of the heating value, into the air. Of 4,000,000,000,000 feet of gas produced, 3,000,000,000,000 feet have been permitted to go to waste, according to the best estimates. To reduce this astronomical figure to an understandable basis, the wasted gas would heat Texas homes and cook Texas meals for 77 years, at the present rate of consumption.

As an important step in the solution of this appalling waste, Mr. Chase suggested that the residue gas should be returned from the stripping plants back into the ground. His idea was put to prompt and successful demonstration in Wheeler County, Texas, where engineers of the Lone Star Gas Co. returned 100,000,000 feet of gas into the ground in six days without mechanical pressure. Subsequent tests added to the success of the original experiment.

"When we offered restoration of gas to the ground as a solution of the wastage problem in Amarillo last April, we had only a theory," Mr. Chase reports. "Now we have proved by actual experience that restoration is practical. We believe it is the one thing which will solve the prodigal wastage of a valuable natural resource in this State."

When representatives of gas companies in Texas and Oklahoma, and E. L. Rawlins, chief natural gas engineer of the U. S. Bureau of Mines, met recently in Dallas to study data obtained from the gas restoration method, Mr. Rawlins said he would seek immediate approval of his plans for further experimentation from the Bureau of Mines officials in Washington. In the tests carried on to date, gas was forced back into the ground with natural pressure of the field. Subsequent experiments will be conducted with mechanical compression of a much higher pressure.

Commenting editorially on waste of gas in the Panhandle, the St. Louis Post-Dispatch says:

"We call attention to this situation to illustrate the daffiness of our civilization. To the city of St. Louis, hardly habitable during the winter because of the smoke pall from soft coal, cheap natural gas would be a godsend. Yet in Texas it is being blown to the winds, irrevocably lost. For what purpose? To obtain a half gallon of gasoline per 1,000 feet of gas. And the trouble with the gasoline business is that it is cursed with overproduction. It all just doesn't make sense."

Gas Drilling in Ontario Begun by New Companies

By VICTOR LAURISTON

CHATHAM, Ontario, July 21.—The eastern section of the southwestern Ontario gas fields, comprising the counties extending along the north shore of Lake Erie from Norfolk to Welland, are the scenes of considerable drilling, mostly financed by Toronto interests. In the last few months a number of new companies have entered this area.

Midwal Oil & Gas Co. started operations last year in the Middleton area of Norfolk County. At the end of the year six wells had been drilled, of which five were producers. Later, some new leases were secured from the Dominion Natural Gas Co. in the South Middleton area; and contract was let to Basil K. Sundy of Tillsonburg for two wells. One of these has finished a producer and the other is near completion. On the original leases in Middleton East, contract was let to J. L. Wardell for three additional wells, of which the first is drilling below 1,000 feet. The company's Middleton Township holdings now approximate 3,000 acres. The producing wells average around 100,000 feet a day. Production will be taken by the Dominion Natural Gas Co.

Firelite Gas & Oil Co. has been incorporated at Toronto and authorized capitalization of $250,000 to take over the holdings of three syndicates in Oneida, Rainham and Walpole Townships in Haldimand County, and in South Walsingham Township in Norfolk County. The acreage included 15 producing wells, while a sixteenth has recently been brought into production as No. 17 is being drilled on the Walpole Township acreage. Gas production has been contracted to the Dominion Natural Gas Co. for a 10-year period.

Domestic Gas Syndicate of Toronto is operating in Haldimand County where it holds 329 acres in Seneca Township and 300 acres in Oneida Township. A producing well has been completed on the Edward farm in Seneca Township and drilling operations are being continued in charge of Percy L. Jackson.

Lowbanks Drillers Gas Syndicate of Toronto has 525 acres in Welland and Haldimand Counties. The drilling firm of Smith & Ehde is handling the contract for a series of wells of which No. 1 has been started. Aragain Gold & Natural Gas Syndicate of Toronto has six producing wells on its Haldimand acreage, five of which are delivering gas to the Dominion Natural Gas Co. This company is planning to drill several more wells this summer to build up winter reserves.

Empire Natural Gas, Ltd. has been incorporated with $600,000 authorized capital at Toronto. Officers are: President and managing director, Douglas Banks, Toronto; vice president, Frank L. James, Tillsonburg; secretary-treasurer, W. H. Harrison, Toronto. Acreage includes 613 acres in Walpole Township, Haldimand County, on which seven wells have been drilled, of which six are good commercial producers with an aggregate flow of over 1,750,000 feet a day. The company also holds 203 acres in Walsingham Township, Norfolk County, and is negotiating for additional Haldimand acreage. Drilling operations will be continued throughout the year, with an objective of 15 additional wells. The Dominion Natural Gas Co. has contracted for the company's production.

The Sterling Gas Co. of Toronto has seven producing wells in Walpole Township, Haldimand County, west of Dunnville, and is financing the drilling of eight additional wells on its holdings there.

Prairie Gas & Oil Co. of Toronto is continuing development work in the new gas area near Eden, in Norfolk County. So far, two gassers and one dry hole have been completed, and two additional wells are drilling. The company holds over 1,000 acres in this area, and has also acquired 100 acres of potential oil land in Zone Township, Kent County, where a well will be drilled shortly. This acreage is fairly close to the Thamesville and Bothwell Pools.

Anglo Natural Gas & Oil Syndicate of Toronto has leased 1,055 acres in Concessions 6 and 7, Sombra Township, Lambton County, west of the Dawn gas field and is making preparations to test the area.

Saginaw Cancels Franchise on Protests Over Rates

MUSKEGON, Mich., July 23.—Announcement was made of the cancellation of the Consumers Power Co.'s franchise to distribute natural gas in Saginaw by action of the city council following protests against the rates. One hearing on the protests was held recently in Saginaw and another scheduled for Lansing is being delayed pending completion of the state natural gas survey.

Action by the Saginaw City council is of particular interest in central Michigan where several communities, including Bethany, Emerson and Ithaca Townships, of Gratiot County, and Wheeler Township, Midland County, will vote on franchises.

Arcadia Township and the towns of Akma, Ithaca, St. Louis and Breckenridge, heretofore served with artificial gas by the Michigan Federated Utilities Co., also will be asked to take votes in August. Consumers Power Co. is pledged to supply these communities with natural gas as soon as possible.

A public hearing on the rules for control of gas production will be held in Mount Pleasant August 7 with James B. Balch, chairman of the State Public Utilities Commission, in charge and Governor Comstock as a guest of honor at the hearing and at a banquet to be given by the Oil and Gas Association that evening.

Kansas City Gas Company Inventory for Valuation

JEFFERSON CITY, Mo., July 23.—An inventory of the Kansas City Gas Co. upon which to base a valuation for rate making purposes will be started under direction of the Missouri Public Service Commission within a few weeks.

Ben C. Adams, vice president and general manager of the Gas Service Co., has advised the Public Service Commission of agreement with the commission's plan for the inventory.

The proposal of the commission is that the gas company make the inventory with its own employes with all work to be supervised and checked by the commission engineers. This will make it possible to speed up the work of appraisal so that a valuation may be determined probably early next year, according to commission engineers.

After obtaining the inventory it is the plan of the commission to inquire into the fairness of the rates for domestic purposes and also the fairness of the rate of 40 cents per 1,000 feet paid by the gas company.

PERSONAL PARAGRAPHS

CHARLES ROESER, of Fort Worth, Tex., member of the Planning and Coordination Committee, was in Washington, D. C., for the meetings of the committee.

* * *

FLORENCE LUNDELL, librarian, technical department, Tulsa Public Library, is leaving for a month's vacation to be spent in driving to Baltimore, Md., by the southern route.

* * *

JEAN C. LEGRAND, consulting engineer for French refineries who has been on a business trip to points in the United States, returned to France July 21, on the French line steamer, Paris.

* * *

HENRY G. HUNT, of Mount Pleasant, Mich., executive secretary of the Michigan Oil and Gas Association, attended the national rig builders convention in Tulsa as a representative of the Michigan Rig Builders Association.

* * *

PHILIP ANCEL, LEDFORD HUBBARD, W. B. JENNINGS and FREDERICK J. WEBB, of the International Petroleum Company, Toronto, Canada, left New York City, Saturday, July 21, on the Grace liner Santa Maria for South American points.

* * *

J. F. CORCORAN, special oil field representative of the Trimont Manufacturing Company, Boston, Mass., who makes his headquarters in Tulsa, returned from a two weeks' trip to Texas and left for the home office of the company where he will remain several weeks.

* * *

H. A. WIENECKE, engineer, Sinclair Prairie Oil & Gas Company, Tulsa, is on his vacation.

* * *

R. F. SCHERMERHORN, Schermerhorn Oil Company, has moved his offices from Big Spring, Tex., to Tulsa.

* * *

HARRY HOUGH, Amerada Petroleum Corporation, Tulsa, left last week for a two weeks' vacation to be spent in Minnesota.

* * *

L. P. GARRETT, vice president of the Gulf Production Company, Houston, Tex., and MRS. GARRETT, are in California for a several weeks' visit.

* * *

ED BUETHNER, formerly employed on Federal soil erosion in Wisconsin, has been added to the staff of the Michigan conservation office in Mount Pleasant.

* * *

F. G. McKELVEY, gauger for the Standard Oil Company (Indiana), at Muskegon, Mich., has been awarded a gold service pin in recognition of 10 years' continuous service.

* * *

PAUL WILLIAMS, formerly engineer for the Pure Oil Company, Gulf Coast division, Houston, Tex., now is associated with the engineering department of the United Gas System.

* * *

MR. and MRS. WILLIAM MAYWOOD CARTER and family, of Porter Township, Midland County, Michigan, are motoring through West Virginia, Pennsylvania, Kentucky and Indiana.

* * *

MR. and MRS. FRED TURNER recently have established their home in Mount Pleasant, Mich., after Mrs. Turner's return from the Pacific Palisades, Calif., where she visited her parents, MR. and MRS. A. R. WALKER, formerly of Muskegon, Mich.

ALMA REED McGLENN, librarian, Tulsa Public Library, left Thursday for a short vacation to be spent in a motor trip to South Dakota.

* * *

J. A. McNALLY, on the staff of the Planning and Coordination Committee, Marketing Subcommittee, Washington, D. C., has gone on a two weeks' vacation.

* * *

G. R. WHITNNEY, Breckenridge, Tex., and J. B. D. WOODBURN, Seminole, Okla., both of the Chemical Process Company, were visitors in Tulsa recently.

* * *

MISS GRACE ROBERTS, secretary to the production engineer of the Pure Oil Company, Fort Worth, Tex., is spending her vacation at Cloudcroft, N. Mex.

* * *

M. R. BRIDGEMAN, of the general management department of the Anglo-Persian Oil Company, is on his way to New York and will be in the United States for several months.

* * *

RALPH ZOOK, of Sloan & Zook, and member of the Planning and Coordination Committee has returned to Bradford, Pa., after attending the recent meetings of the committee in Washington, D. C.

* * *

LARRY M. OLES, geological scout for the Sinclair Prairie Oil Company, Amarillo, Tex., has returned to his headquarters after a couple of days' business conference in the Fort Worth, Tex., office.

OFFICIALS of the Standard Oil Company (New Jersey) and its subsidiary, the Standard Oil Company of New Jersey, and of the Humble Oil & Refining Company, Imperial Oil, Ltd., and of the Standard Oil Company of Louisiana, are visiting Mid-Continent points this week. The group, arriving in Tulsa on Wednesday of this week, was taken on an inspection trip of Oklahoma fields by C. H. LIEB, president of the Carter Oil Company, and other executives of the Carter. Next week the group will visit fields in Texas. Officials on the trip include: E. J. SADLER, vice president, Standard Oil Company (New Jersey); ORVILLE HARDEN, director of the Standard of New Jersey; F. W. ABRAMS, president of the Standard of New Jersey; C. F. SMITH, vice president and assistant to Mr. Abrams; D. L. HARPER, in charge of export sales; H. L. SHOEMAKER, secretary of the coordination committee; J. W. CONNELLY; W. J. EDMONDS; HARRY H. HILL, chief petroleum engineer for the Jersey; E. P. SALISBURY, statistician, and W. R. MAUTNER, secretary for the party. Coming from Toronto will be L. C. McCLOSKEY, vice president and director of the Imperial Oil, Ltd., and B. A. MYERS, production official of the same company. From Louisiana will come J. C. HILTON, president of the Standard of Louisiana, and H. H. HEWETSON, vice president of that company. The Texans who will join the party here will include HARRY WEISS, executive vice president of the Humble Oil & Refining Company; WALLACE PRATT and JOHN R. SUMAN, vice presidents of the Humble company.

* * *

HARRY C. WIESS, vice president of the Humble Oil & Refining Company, Houston, Tex., and his family, are in Sulphur Springs, W. Va., on a vacation trip.

* * *

FRANK DRANE, president, Drane Tank Company, is in his Tulsa office for a few days after an extended visit to West Texas oil fields.

* * *

R. D. MATTHEWS, executive vice president of the Union Oil Company of California, recently completed 20 years of service with the company.

* * *

A. M. BOWMAN, district manager, the Parkersburg Rig & Reel Company, Tulsa, has been in Kansas for a few days on company business.

* * *

J. C. BALLAGH, president, Patterson-Ballagh Corporation, Ltd., Los Angeles, Calif., is in the Mid-Continent district in the interest of his company.

* * *

J. R. McCOLLUM, Mid-Continent manager, Dallas, Tex., and E. A. RICHARDS, Oklahoma City, Okla., representative, Emsco Derrick & Equipment Company, were business callers in Tulsa.

* * *

CHARLES YOUNGBLOOD and family are spending their vacation motoring to points in the North, visiting the exposition at Chicago also. Mr. Youngblood is purchasing agent for the Gulf Production Company at Fort Worth, Tex.

* * *

BERT BRUSH, drilling superintendent for the Nederlandsche Koloniale Petroleum Maatschappij at Hulppostkantoor, Soengei, Gerong, Sumatra, Dutch East Indies, sailed from Los Angeles, Calif., on the President Hoover bound for Palembang, accompanied by MRS. BRUSH.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

July 26, 1909

The busy oil center, Nowata, Okla., has a new bank with W. A. Chase president. Oil producers on the board are Archibald Campbell, W. J. Kirkwood, William Moyar, and J. L. Kiskadden.

Texas oil operators are interested in the possibilities of Bastrop County in that State where oil was discovered at 334 feet in a well being drilled for water. The oil tested 31 degrees Baume.

The first half of July in Oklahoma has been largely one of 100 to 105 degrees temperatures. A great rainstorm on July 14 gave relief, filled the streams and ponds and saved the corn crop.

Forrest M. Towl, of New York, is located in Shreveport, La., where he has charge of the Standard Oil Co.'s pipe line construction program.

20 Years Ago

July 30, 1914

Oklahoma tank builders have made a demand for a 4-hour day at $6 per day as a summer wage scale. The hot sheets of metal and in-the-sun temperatures of 120 plus, make tank building tough work, they say. They also want screened-in sleeping quarters and free transportation to and from work.

There are 29,177 oil wells in Oklahoma. Their average daily production is 10.2 bbls. The Cushing Field has 976 wells averaging about 149 bbls. per well per day.

Tulsa oil producers are building or buying new homes at high prices among them being H. F. Sinclair, John H. Markham, Jr., and C. J. Hindman. Already J. A. Hull, Robert Oglesby, J. E. Crosbie, Thomas White, Earl Sinclair, Henry Steinberger, F. A. Gillespie, M. H. Connors, Charles Page, D. F. Connolly, and Robert H. Galbreath have built beautiful homes with spacious grounds.

10 Years Ago

July 24, 1924

Frank McCue, retired assistant superintendent of the Southwest Pennsylvania Pipe Line Co., is given a banquet at Washington, Pa., by former associates. He had been 33 years with the company.

Prof. David Todd, of Amherst College, says that New York City may suffer an earthquake one of these days, "Unless the world gets over its mad rush for petroleum, there are going to be some radical changes on this planet," the professor declares.

Jacob France has been elected president of Cosden & Co., succeeding J. S. Cosden.

Grant Hubley, vice president and general manager of the Oil Well Supply Co., dies in Pittsburgh, Pa., from injuries received in an automobile accident.

C. H. KEPPLINGER, engineering department, Shell Petroleum Corporation, Tulsa, has recently returned from a trip to California, visiting company properties.

* * *

C. R. BROWN, of the Burmah Oil Company, Ltd., Yenangyaung, Upper Burmah, India, recently arrived in New York and is now en route to California by automobile.

* * *

NIC N. STEFANESCU, chief engineer, I. R. D. P. Company, Mislea, Gara, Baicoi, Rumania, recently arrived in Los Angeles, Calif., after several months in the Mid-Continent.

* * *

MR. and MRS. GEORGE D. BROWN and two children who have been residing at Woodstock, Ontario since their return from Peru a few months ago, will leave shortly to make their home in Los Angeles, Calif.

* * *

JESSE B. PRICE, warehouse superintendent, Tropical Oil Company, Cartagena, Colombia, who spent several weeks in California recently, has left for New York accompanied by MRS. PRICE and their son and daughter. They will sail on August 4 for South America.

* * *

C. P. WATSON, of the Milham Exploration Company and MRS. WATSON had W. H. REINHARDT, general manager of the Kettleman North Dome Association, and HOWARD MARSHALL and their wives as guests at a dinner party at the Miramar Hotel in Santa Monica last week.

* * *

R. G. REID, former minister of lands and mines for Alberta, having become premier of the province, HUGH W. ALLEN has been named his successor in the lands and mines department. Mr. Allen has been for years identified with the Peace River country, at one time the scene of very active oil drilling operations.

* * *

HAROLD B. LOVEJOY, assistant secretary of the Texas Seaboard Oil Company, Dallas, Tex., is in New York.

* * *

J. C. OWEN, Oklahoma City, Okla., representative, the Guiberson Corporation, was a recent business visitor in Tulsa.

* * *

COL. JAMES H. HAYES, of the Standard Oil Company of New Jersey, accompanied by MRS. HAYES, left New York City on a trip to European points.

* * *

H. B. THOMPSON and family have returned from a vacation spent on the Gulf Coast and Southwest Texas points. Mr. Thompson is production engineer for the Pure Oil Company at Fort Worth, Tex.

* * *

THOMAS PINCKNEY, formerly connected with the Richmond News-Leader, has been appointed district sales manager for the Sun Oil Company with headquarters at Richmond, Va. The Sun company is spending $250,000,000 expanding its marketing facilities in that territory.

* * *

McK. W. KRIEGH, Washington, D. C., attorney, has announced his resignation as a special attorney in the Treasury Department, and his departure for an extended trip to visit the principal oil, mining and timber centers of the West and Northwest. He plans to be in Tulsa and Oklahoma City about August 30. Mr. Kriegh was formerly chief of the tax division of the American Mining Congress, and later served as special tax adviser to the secretary of the U. S. Timber Conservation Board appointed by PRESIDENT HOOVER to investigate economic conditions in the lumber industry. He is now engaged in the general Federal law practice in association with EDWARD CLIFFORD, former assistant secretary of the treasury, with offices in Washington, D. C.

Stanolind Chief Engineer Advanced

George S. Bays, for four years chief engineer of the Stanolind Oil & Gas Company and recently made consulting, advisory and research engineer, entered the oil industry in 1912, when he joined the engineering staff of the Magnolia Petroleum Company in Dallas, Tex. A wide range of duties gave him an excellent foundation for work to which he was to be advanced later. Before long he was put in charge of the Magnolia's natural gasoline department. He was loaned to the McMan Oil Company to serve as chief engineer for that organization and upon returning to Magnolia he was placed in charge of the northern division of the company's natural gasoline department.

GEORGE S. BAYS

In 1918 Mr. Bays left the Magnolia to become chief engineer in charge of construction for the Trinity Construction Company, and he supervised reclamation projects costing millions of dollars. In 1920 he became vice president and general manager of the Shamrock Oil Company. Three years later he rejoined McMan, this time assuming charge of natural gasoline and engineering operations and with a financial interest in the company. When McMan was acquired by the Dixie Oil Company, Mr. Bays continued in charge of engineering work. When the Stanolind Oil & Gas Company was formed in 1930 with Dixie as its nucleus, Mr. Bays was made chief engineer.

Mr. Bays, who was born in Severy, Kans., graduated from the Montgomery County High School in that State and then took a civil engineering course in the University of Kansas. Upon finishing his college work he was assistant city engineer of Independence, Kans., for about two years before joining the Magnolia Petroleum Company. He is married and his home is in Tulsa. One of the high spots in each year of his life is his big-game hunt in Mexico. Mountain lions, bears and deer are among his trophies. His friends say they can't get him interested in golf.

V. S. PENOTE, sales manager, Cleveland Trencher Company, Cleveland, Ohio, spent several days in Tulsa recently.

* * *

J. FLETCHER FARREL, vice president and treasurer of the Consolidated Oil Corporation, and LELAND V. STANFORD, vice president of the Sinclair Refining Company, in charge of export department, accompanied by their wives, left New York City last week on Bremen of the North German Lloyd on a trip to European points.

* * *

PAUL E. HADLICK, secretary to the Marketing Subcommittee of the Planning and Coordination Committee, has returned to Washington, D. C., after a three-day trip to Chicago to attend meetings of the board of directors of the National Petroleum Marketers Association. He included in his itinerary attendance at the state marketing committee meeting and a special meeting of state marketing secretaries.

* * *

HAROLD VANCE, of Kilgore, Tex., has been appointed head of the department of petroleum engineering at the Texas A. and M. College, by DEAN F. C. BOLTON, of the college and of the school of engineering. He will relieve PROF. R. L. MILLS, acting head of the department, who resigned early this summer. The appointment is effective September 1. A graduate from the University of California in petroleum engineering in 1923, Professor Vance has been division production engineer for a number of oil companies and has had practical field experience in drilling and production methods in Alaska, California, Wyoming and in West and East Texas fields. He has been connected with the U. S. Bureau of Mines and with the U. S. Coast and Geodetic Survey, and now is on the civil service list as a senior petroleum engineer. Since 1929 he has been a member of the Vance-Feagan Engineering Company.

E. STANLEY WHITE, geological department, Mid-Kansas Oil & Gas Company, Tulsa, has returned from his vacation.

* * *

T. C. SKEEN, executive department, the Columbian Steel Tank Company, Kansas City, Mo., was in Oklahoma City and Tulsa last week and is now in East Texas.

* * *

HARRY WARD, drilling superintendent, Attock Oil Company, Ltd., Khaur, Punjab, India, is now in England and will shortly be en route to the United States.

* * *

R. S. BATEMAN, assistant production superintendent for the Tropical Oil Company, Cartagena, Colombia, is now in Utah. He expects to return to Los Angeles, Calif., during August and sail for South America.

* * *

PETER KERR, resident chemist for the Asiatic Petroleum Company, Ltd., in London, England, is making a short visit to California. Mr. Kerr states that his primary object is to study American methods and equipment for the metering and measurement of oil flow.

* * *

ROBERT HARCUS, field superintendent for the Burmah Oil Company, Ltd., left Digboi, Upper Assam, India, last month and is now touring Scotland. He plans to come to the United States soon where he will spend several months studying drilling operations and equipment.

* * *

JOHN M. GATES, drilling superintendent for the Tropical Oil Company at Barranca, Bermeja, Colombia, arrived in California several weeks ago accompanied by MRS. GATES and their two daughters. They are leaving Los Angeles next week and will sail from New Orleans on the United Fruit Steamship Metapan, arriving in Cartagena, August 13.

* * *

J. P. STEEL, of the Stanolind Pipe Line Company, Fort Worth, Tex., has returned with his family from an automobile trip to points in Illinois.

* * *

GEORGE C. GREEN, M. E., of the class of 1934 of Stevens Institute of Technology, has joined the technical staff of the Acheson Colloids Corporation. Mr. Green will be located in New York City where he will be first assistant to RAYMOND SZYMANOWITZ, technical editor of the corporation.

* * *

LLOYD WILLIAMSON, of the California Star Oil Company, has been re-elected chairman of the East Side Producers Committee at an organization meeting held in the office of the oil umpire at Bakersfield, Calif., and L. F. KOHLE, of Petroleum Securities, was re-elected vice chairman at the same time.

* * *

HOMER HAVENSTRITE, California Western Oil Company, and CHARLES PREWETT, Golden Bear Oil Company, representing Coffee Canyon; MAX APP, General Petroleum Corporation, and LOT BOWEN, Western Gulf Company, representing Fruitvale; R. I. BROWN, Standard Oil Company, and R. L. KEYES of the Texas Company, representing Kern Front; ARTHUR CRITES, R. R. FISHELL, and L. E. FOUST, representing Kern River; DANA HOGAN, ALLAN JERGINS and TED MILES, representing Mountain View; N. L. DORN, Shell Oil Company, C. M. HALL, Getty Oil Company, PERCY LEA, Vedder Petroleum Company, and R. B. PROVINS, of Signal Oil Company, representing Mount Poso; F. E. SMITH, Ohio Oil Company, representing the Premier area, and J. H. McMASTERS, Honolulu Oil Company and J. A. STOTTS, Kern River Oilfields Company, representing Round Mountain operators, were elected members of the East Side Producers Committee at the last meeting of operators in the various fields.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended July 21 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
55⅝	41½	2,300	50	48½	48¾	Amerada Corp.	774,875	N.P.	50cQ	7-31-34	47⅝	18½	22¾	12	23	11¼
35¼	21¾	7,800	25⅞	24⅝	24⅝	Atlantic Refining	2,665,234	$25	25cQ	6-15-34	32½	12⅜	21⅞	8⅝	23⅝	8⅝
10	6¼	13,300	7⅜	6¼	7	Barnsdall Corp.	2,248,795	$5	....	5-11-31	11	3	7	3⅜	14½	4
19¼	9¾	47,500	10⅞	9¾	10¼	Columbia Gas & Elec.	11,610,036	N.P.	12½cQ†	5-15-34	28⅛	9	21	4¼	45⅝	11⅝
14¼	9	33,700	10⅛	9	9⅛	Consolidated Oil Corp.	14,218,835	N.P.	28c	4- 7-34	15¾	5	9	4	15⅞	4⅛
22⅝	16½	19,600	20	18⅛	18¼	Continental Oil of Delaware	4,738,593	$5	25c	4-30-34	19⅝	4⅞	9⅜	3⅝	12	5
22¼	15⅛	14,600	17¾	16½	16½	General Asphalt	387,149	$10	....	6-15-32	27	4⅝	15½	4¾	47	9⅝
5⅝	3¼	1,400	3⅝	3⅜	3⅜	Houston Oil (new)	1,098,618	$25	....	10-17-30	7⅜	1⅞	5⅜	1⅛	14⅛	3
3⅜	1⅝	700	1⅞	1⅝	1⅝	Louisiana Oil Refining	1,302,158	N.P.	....	.....	4	⅝	2¼	½	4½	1
14⅜	11	4,200	12⅞	12⅛	12⅛	Mid-Continent Petroleum	1,857,912	N.P.	25c	5-15-34	16	3¾	8⅞	3¾	16¾	5
20⅜	11½	1,100	15⅜	14	14	National Supply of Delaware	382,591	$25	....	5-15-31	28⅝	4	13	3½	10¼	5
15⅞	10⅜	12,300	11	10⅜	11	Ohio Oil Co.	6,563,107	N.P.	15c	6-15-34	17⅜	4¾	11	5	19½	5⅛
8⅝	6½	1,300	7	7	7	Pacific Western Oil	1,000,000	N.P.	25c‡	10-25-33	9½	3	8	3	15	2⅞
2½	1	500	1⅜	1	1⅜	Panhandle P. & R.	198,770	N.P.	....	.....	4¼	⅜	1¼	¼	4¼	⅝
20⅝	15⅛	12,900	17½	16½	16½	Phillips Petroleum	4,154,687	N.P.	25c	5-14-34	18¾	4¾	8⅛	2	16⅝	4
16¾	10	3,200	11⅝	10⅝	10⅝	Plymouth Oil Co.	990,261	$5	25cQ	6-30-34	17⅝	6¾	12½	6	18	6
14⅞	9	10,000	10¼	9	9¼	Pure Oil	3,038,370	N.P.	....	9- 1-30	15⅜	2½	6½	2⅞	11⅞	3¼
39⅛	33	100	33⅜	33⅜	33⅜	Royal Dutch N. Y. shares	432,224	$14	$1.07½	8-14-33	39¾	17⅝	23¾	12⅛	42⅝	13
38⅜	25⅝	5,100	32½	29¼	29½	Seaboard Oil of Delaware	1,204,460	N.P.	15cQ§	6-15-34	43⅜	15	20⅜	6⅝	20⅜	5½
11⅞	7⅛	8,600	7⅞	7⅛	7½	Shell Union Oil	13,070,625	N.P.	....	6-30-30	11⅝	4	8⅜	2½	10¼	2½
89	58	1,300	73	68	68	Shell Union Oil pfd.	400,000	$100	....	7- 1-31	61	28½	65¼	18	78	15
11¼	8¼	1,500	10¼	9½	9½	Simms Petroleum	461,000	$10	30c	8- 1-34	12⅜	4⅞	7½	3¼	11	3½
11½	7⅞	1,000	9⅜	8¾	8¾	Skelly Oil	1,008,514	$25	....	12-15-30	9⅞	3	5⅜	2½	12⅞	2
19⅞	14	21,000	16⅛	15	15⅛	Socony-Vacuum	30,905,006	$25	15cQ	6-15-34	17	6	12¼	5¼	21	8⅜
42⅞	30⅝	14,000	35⅜	33⅛	33⅞	Standard Oil of California	13,102,900	N.P.	25c	6-15-34	45	19½	31⅞	15⅛	51⅜	23¼
41	33⅞	No sales	..	..	..	Standard Oil of Kansas	200,000	$10	50cQ	7-31-34	39⅞	12⅜	16½	7	19	7⅜
50¼	41⅛	26,300	45⅝	43½	43⅝	Standard Oil of New Jersey	25,740,965	$25	50cSA	6-15-34	47½	22¾	37⅜	19⅞	52½	26
63⅞	51½	500	63⅛	62	62	Sun Oil	1,733,013	N.P.	25cQ	6-15-34	59	35	39⅞	24⅜	45¼	26⅜
29⅜	21½	101,200	24¼	22½	22⅝	Texas Corp.	9,352,371	$25	25cQ	7- 1-34	30⅛	10¾	18¼	9¼	36¼	9⅞
6½	3⅛	2,000	3¾	3½	3½	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	6½	1⅜	4	1½	6½	1⅞
14¼	8½	18,700	11⅝	10½	10½	Tide Water Associated	5,618,672	N.P.	....	2-16-31	11¾	3⅛	5⅝	2	9	2⅛
84¾	64½	600	82¼	81⅞	82	Tide Water Associated pfd.	666,524	$100	$1.50Q	4- 1-34	65¼	23½	60	20	68	20½
20½	15	4,300	16⅝	15⅜	15⅜	Union Oil of California	4,386,070	$25	25cQ	5-10-34	23⅜	8½	15⅝	8	26⅝	11
21¼	15⅜	1,100	20¼	19⅝	20¼	Union Tank Car	1,200,000	N.P.	30cQ	6- 1-34	22⅜	10½	19¼	11¾	25¼	16
5⅜	3⅛	1,100	3⅜	3⅛	3⅛	Wilcox Oil & Gas	424,839	$5	....	5-10-28	5½	2	8¾	2¾	9⅜	2¾

*Ex-dividend. †Payable in 5 per cent convertible preferred stock. ‡Initial dividend. §Plus extras.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended July 21 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
38	31½	300	33¾	31½	31½	Buckeye Pipe Line Co.	200,000	$50	75cQ	6-15-34	39¾	25	35	17½	56	30
5½	2⅝	4,000	3¼	3⅛	3⅛	Carib Syndicate	579,000	25c	....	.....	7¾	¼	¾	¼	2⅝	¼
126½	115	50	124	124	124	Chesebrough Mfg. Co.	120,000	$25	$1Q†	6-29-34	129	71	90	53	129½	75
4¼	1¾	34,800	2⅛	1⅞	2	Cities Service	37,804,394	N.P.	....	6- 1-32	6¼	1½	6⅞	1¼	20¾	5
3¼	1¼	1,200	1⅝	1⅜	1⅜	Colon Oil	2,200,000	N.P.	....	.....	4	¼	1¼	¼	3⅛	¼
3⅞	1⅝	500	2⅛	1⅝	1⅝	Cosden Oil	399,687	$1	....	.....	3⅞	1⅜	2⅞	¼	3⅜	⅝
13⅜	9⅝	16,400	13	12	12⅝	Creole Petroleum	6,974,356	$5	....	.....	12	4⅜	3⅛	1⅜	3⅞	1⅝
7½	4¾	No sales	..	..	..	Darby Petroleum	509,696	$5	25c	2-15-34	8	2⅛	7⅛	1⅝	2½	1⅝
2¼	1⅝	No sales	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	2¾	⅞	3	1	6	1½
36	31	300	37	33	33	Eureka Pipe Line	50,000	$100	$1Q	8- 1-34	41¾	20	35	18	36	19
76¾	56½	4,300	64	58½	58½	Gulf Oil Corp.	4,538,101	$25	....	10- 1-31	62	24	44¾	23	75½	25⅝
46¾	33½	4,200	42⅞	41¾	41¾	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7- 1-34	105½	40	55	35⅝	72	44½
15½	12⅝	8,800	15	14⅜	14⅜	Imperial Oil of Canada	26,857,152	N.P.	25cSA†‡	6- 1-34	15⅞	6½	10⅞	6¼	18¼	7⅜
6⅞	3⅞	400	4⅜	4⅜	4⅜	Indiana Pipe Line	300,000	$10	15cSA	5-15-34	8	3⅛	7½	2⅜	21⅛	5½
30⅝	19⅜	6,900	28¼	26⅞	27½	International Petroleum	14,247,088	N.P.	56cSA†‡	6- 1-34	23½	8⅛	12¼	8	15½	7⅜
3¾	2⅞	10,100	4	3⅞	3⅞	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	2¼	⅛	2½	½	2	½
5⅞	3½	200	3½	3½	3½	Lion Oil Refining	270,000	N.P.	....	10-27-30	9½	1¼	3½	⅞	6¾	1½
8¾	4¾	1,300	5¼	4¾	5	Lone Star Gas	5,382,723	N.P.	16cQ§	3-31-34	11⅞	4¾	11	3⅜	29	5½
5½	4	1,800	5¼	4⅝	4⅞	Mountain Producers	1,593,584	$10	15cQ	4- 2-34	6½	2½	4¾	2⅛	5⅞	2
18⅛	14	700	15½	15⅛	15⅛	National Fuel Gas	3,810,183	N.P.	25cQ	4-16-34	20	10	14⅝	8	26½	9⅜
9½	7⅝	100	8⅜	8⅜	8⅜	National Transit	509,000	$12.50	40cSA	6-15-34	10	5½	10½	6	17½	5
2¼	1¾	1,000	2¼	2¼	2¼	New Bradford Oil	1,445,202	$5	10c	3-15-34	2⅛	½	⅞	¼	1½	½
2¾	1	200	1⅛	1⅛	1⅛	New Mexico and Arizona	1,000,000	$1	....	.....	1⅞	½	1¼	⅜	3	⅝
4¾	3	100	3⅝	3⅝	3⅝	New York Transit	100,000	$5	15cSA	4-14-34	4⅞	3	9¾	7½	14½	5⅜
7	4⅝	100	6	6	6	Northern Pipe Line	120,000	$10	25cSA	1- 2-34	6⅛	4¼	5½	3⅛	35½	20
2⅝	⅞	6,000	1¾	1½	1½	Pantepec Oil	1,608,700	N.P.	....	.....	3⅜	⅛	⅝	1/16	2	⅝
3⅛	1	200	1⅛	1	1	Ryan Consolidated	296,931	N.P.	....	.....	4¼	⅝	2⅛	⅝	3	⅝
7⅞	5¾	800	6⅝	6¼	6¼	Salt Creek Producers	1,496,859	$10	20cQ	8- 1-34	9¼	3½	5½	2⅞	7⅝	2⅜
26½	17½	1,000	24⅛	23½	23¾	South Penn Oil	1,200,000	$25	30cQ	6-30-34	22⅛	11	16½	9⅝	23⅞	9¼
5¼	4	No sales	..	..	..	Southern Pipe Line	100,000	$10	10cSA	3- 1-34	6	2⅛	10	3¾	17	7
47	41	50	47	47	47	Southwest Penna. Pipe Lines	35,000	$50	$1Q	7- 2-34	43	24½	37	27	42½	25
32¾	25	11,500	27⅛	26⅝	26¾	Standard Oil of Indiana	15,528,504	$25	25cQ	3-15-34	34	17	25⅛	13⅛	38½	13½
17⅝	14⅝	1,400	16½	16¼	16¼	Standard Oil of Kentucky	2,606,983	$10	25cQ	6-15-34	19¼	8⅜	15⅞	8⅞	23⅜	12⅛
16⅝	12⅞	No sales	..	..	..	Standard Oil of Nebraska	190,822	$25	25cQ	6-20-34	20½	11	19	10¼	36½	16
27½	18¼	12,050	20	19	19	Standard Oil of Ohio	753,740	$25	....	1- 3-33	41	15½	30⅛	15½	62½	23
2	1/16	2,800	1¼	1⅛	1⅛	Sunray Oil	1,162,840	$5	....	4-15-31	1½	¼	⅝	⅛	5¼	¾
11	4⅝	1,200	5⅞	5	5	Texon Oil & Land	936,028	N.P.	15cQ	6-30-34	13¾	6¼	10½	4½	12⅞	2¼

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Combine Gasoline Plant and Crude Oil Stabilizer

(Continued from Page 26)

oil will gravitate to the pipe line pump station.

Hard Water

There are several reasons that determined the design of this combination plant, one of which is the character of the water. Water produced from wells and accumulated in surface ponds is extremely hard, carrying at times as much as 200 grains hardness. If this water was used in shell and tube condensers, it would scale the units so much that they would need to be cleaned often. Another reason is that in expanding the oil from well pressure to that carried on the stabilizer unit, a low temperature can be obtained, and when utilizing this cold crude through the condensers and exchangers the tubes remain clean and in good condition. The water is so foul with scale forming solids that it is necessary to evaporate the boiler makeup supply. This is accomplished in an atmospheric unit and the vapors condensed in the louvre tower.

Both the crude stabilizer and gasoline recovery plant are closely related as to operating conditions, but each may be operated independently of the other. The design is such that when the crude supply from the wells reaches a lower gravity, the gasoline plant may be operated as a recovery unit. The engine room is designed so that when the gas pressure falls below the required working pressure, it may be taken from the secondary separator by additional engines.

The present method of producing the oil from the wells will be continued by leading the flow lines from the individual location to this central separator battery so that duplication of flow tanks and separators will be eliminated. By this method it will never be necessary, until depletion is far advanced, to lay a system of gas gathering lines.

The volume of gas handled through the recovery plant at the present time runs between 750,000 and 800,000 feet. Production of natural is about 1,500 gallons of 18-pound product daily, having an average of 82 degrees A.P.I. When other wells are completed, the volume is expected to be increased and the production of natural stepped up.

GAS HOUSE HEATING DRIVE

Equitable Gas Co., unit of the Philadelphia Co. system, is co-operating with other gas companies in the Pittsburgh, Pa., district in a major gas conversion burner house heating campaign which started July 18. The campaign will last until November 1.

VETERAN PIPE LINE EMPLOYE

Patrick O'Brien, 80, veteran pipe line employe, died at his home in Sharpsburg, Pa., recently, following a brief illness. Mr. O'Brien was pensioned by the Crescent Pipe Line Co. several years ago. Starting his pipe line career at the age of 18, Mr. O'Brien worked for years with the National Transit and Crescent Pipe Line companies.

Kansas Wildcats

(Continued from Page 124)

Sovereign Oil Co.'s No. 1 Nichols, C NW SE Sec. 20-25-1w.
Set 6-in. csg. 2,202 ft.; drlg. 2,580 ft.

Trees Oil, Derby Oil et al's No. 1 McMinn, NW SW NE Sec. 36-26-1e.
S.D. 2,219 ft.

STAFFORD COUNTY

Vickers and Phillips' No. 1 Cravens, SW NE Sec. 15-25-11w (O.W.D.D.).
Base Viola 4,025 ft.; Siliceous lime 4,090-4,103 ft.; T.D.; H.F.W.; dry and abd.

SUMNER COUNTY

Morgan & Flynn's No. 1 Mercer, NW NE NW Sec. 36-32-1w.
Set 6-in. csg. 3,360 ft.; drlg. 3,500 ft.

Wentz and Continental's No. 1 Small, NW SW Sec. 5-33-4w.
Setting surface pipe.

TREGO COUNTY

Alma Pet. Co. et al's No. 1 Rhodes estate, SW SW Sec. 14-11-23w.
Siliceous lime 3,978-4,020 ft.; dry; T.D. 4,105 ft.; fsg.

Mid-Kansas O. & G. Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
T.D. 875 ft.; U.R. 12-in. csg.

WASHINGTON COUNTY

Rose Oil Co. et al's No. 1 Penwell, NE NW SE NE Sec. 16-3-3 (O.W.D.D).
Old T.D. 1,720 ft.; rigging up to deepen.

WOODSON COUNTY

Schwartz et al's No. 1 Collins, SW NW NE Sec. 36-23-14.
S.D. 200 ft.

Oklahoma Wildcats

(Continued from Page 121)

LINCOLN COUNTY

Mid-Continental Oil Co.'s No. 1 Bolby, C SE SW Sec. 27-12-2.
Rigging up rotary.

L. G. Hulse's No. 1 Sloan, SW NW SE Sec. 19-17-3.
Drlg. 843 ft. in new hole.

Texas Co.'s No. 1 Gessmann, SE NE Sec. 33-14-4.
Wilcox 4,999-5,002 ft.; H.F.W.; P.R. and ripped pipe around 3,800 ft.; flew 305 bbls. oil between 8-in. pipe and surface csg.; sand not determined.

LOGAN COUNTY

W. N. Anthony's No. 1 Fruin, SE SW Sec. 4-16-1.
Show oil 5,253-59 ft. in dolomite; T.D. 5,285 ft. in Wilcox sand; S.D. for csg.

MARSHALL COUNTY

Nunn and Stinnett's No. 1 Lindecker, NW cor. Section 7-8s-6e.
Drlg. 100 ft.

McCLAIN COUNTY

Denver P. & R. Co.'s No. 1 Newburn, C SE SW Sec. 22-5-1.
Drlg. 6,178 ft. in dolomite.

NOBLE COUNTY

Continental Oil Co.'s No. 1 Bennett, SE NW Sec. 19-20-1w.
T.D. 5,232 ft.; to P.B. to first Wilcox and test show.

Magnolia Pet. Co.'s No. 1 Crawford, SE NW Sec. 27-21-2.
Base Layton sand 3,169 ft.; salty; abd. 3,780 ft.

Texas Co. et al's No. 1 Voss, SW NE SE Sec. 28-22-2w.
Wilcox 4,816-59 ft.; flowed 927 bbls. in 23 hrs.; T.D. 4,887 ft. in dolomite, flow 1,622 bbls. 24 hrs.; drilling ahead.

Vaughn Dev. Co.'s No. 1 Loula, NE SE SW Sec. 16-22-1.
Rigging up rotary.

OKFUSKEE COUNTY

Carter Oil Co.'s No. 1 W. H. Dill, C NW SE Sec. 2-11-8.
Set 12-in. csg. 157 ft.; drlg. 2,080 ft.

Delton Oil Co.'s No. 1 Fixico, SE cor. Sec. 7-11-8.
Calvin sand 2,243 ft.; drlg. 3,543 ft.

OKLAHOMA COUNTY

Gypsy Oil Co. et al's No. 1 Grant, C SE NW Sec. 27-13-4w.
T.D. 7,477 ft. in Wilcox sand, dry; S.D. for orders.

Springrose Drlg. Co.'s No. 1 Edwards, C SE Sec. 19-11-1.
T.D. 4,540 ft.; 400 ft. drill pipe in hole.
S.D.

OSAGE COUNTY

Norbla O. & G. Co.'s No. 1, NW SE Sec. 21-24-7.
Bartlesville sand dry; drlg. 2,820 ft.

Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
S.D. 1,712 ft. for wtr.

Empire O. & R. Co.'s No. 1, SE NE Sec. 3-25-3.
Bartlesville sand, broken and dry; drlg. 3,433 ft. shale.

PITTSBURG COUNTY

Arkhoma's No. 1 Cummings, NW NE SE Sec. 6-4-12.
Drlg. 1,390 ft.

Exchange Drlg. Co. et al's No. 1 Chunn, SE NW Sec. 29-4-14.
T.D. 350 ft.; waiting for csg.

W. E. Halley's No. 1 Drew, NW SW Sec. 21-3-14.
S.D. 190 ft.

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14.
Lost tools; T.D. 3,210 ft.; S.D.

PONTOTOC COUNTY

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-2-6.
S.D. 3,920 ft.

Boyle et al's No. 1 Newbern, SW NE Sec. 31-5-4.
T.D. 2,237 ft.; hole full sulphur wtr.; S.D.

Emanuel, Rudman & Hatcher's No. 1 Mayer, SW SE NW Sec. 7-3-8.
S.D. 1,525 ft.

Jarrett Pet. Co.'s No. 1 Johnson, SE NW Sec. 28-4-4.
Drlg. 890 ft.

Dandridge et al's No. 1 Stafford, NW cor. Sec. 5-1-6e.
T.D. 650 ft.; S.D.

Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
Drlg. 125 ft.

Riddle et al's No. 1 Barnes, SE NW SE Sec. 21-5-4.
T.D. 2,910 ft.; recemntg off drill pipe.

Southern Oil Corp's No. 1 Ladd, C NW NW Sec. 27-3-7.
Cellar.

Schermerhorn Oil Co.'s No. 1 Banks, SW SE SE Sec. 16-2-6.
Building rig.

POTTAWATOMIE COUNTY

Phillips and Gypsy Oil Co. et al's No. 1 Flynn, NE NW Sec. 17-6-3.
Drlg. 3,850 ft.

Stanolind-Amerada's No. 1 Goodman, SW NE NE Sec. 5-10-4.
Cored show oil 4,420-40 ft.; T.D. 4,452 ft.; set 9-in. csg. 4,386 ft.

SEMINOLE COUNTY

Harman Oil Co.'s No. 1 Bowlegs, SE NE SW Sec. 1-7-7.
T.D. 1,665 ft.; fishing.

Moran et al's No. 1 Brinlee, SW NE Sec. 27-6-5.
Rig.

Tate & Starbuck's No. 1 Heard, SE NW Sec. 9-6-7.
T.D. 985 ft.; lost hole acc't fsg. job; skid rig 20 ft. north.

Wrightsman Oil Co.'s No. 1 Smith, NW SE Sec. 25-10-7.
Drlg. 630 ft.

WASHITA COUNTY

Anadarko Basin Oil Co.'s No. 1 Wolf, NE SW Sec. 33-9-17w.
Rigged up and S.D.

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-13w.
T.D. 2,162 ft.; C.O. at 2,145 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e.
Drlg. 3,656 ft.; sandy dolomite.

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e.
S.D. 1,135 ft.; machine moved out.

L. A. Fitts' No. 1 Blankenship, NE cor. NW Sec. 19-3s-10e.
T.D. 630 ft.; S.D.

Malernee et al's No. 1 Greenville, N. B., NW SW Sec. 36-2s-13e.
Sand, show oil 2,128-35 ft.; drlg. 2,150 ft.

CARTER COUNTY

Daphine Oil Co.'s No. 1 Hooks, SE NW NW SE Sec. 5-1s-2w.
Show oil 1,075-1,185 ft.; T.D. 1,305 ft.; S.D.

Hudson & Poland's No. 1 Sullivan, NE SE Sec. 5-5s-1w.
Sand 2,928-58 ft.; S.O.; T.D. 3,505 ft., contract depth; to deepen.

McHenry et al's No. 1-A Ratliff, NW SW Sec. 28-1s-2w.
Sand 540-606 ft.; T.D. good show oil; bailing.

COMANCHE COUNTY

F. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
1,120 ft. T.D.; S.D.

Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
Drlg. 640 ft.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-3n-3w.
S.D. 351 ft.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Kelly, NE cor. Sec. 10-1n-20w (O.W.; P.B.).
Old T.D. 2,084 ft.; P.B. 1,688 ft.; sand 1,-680-88 ft.; 22 bbls. oil in 6 hrs.; prep. to run swab.

JEFFERSON COUNTY

Geo. Pace et al's No. 1 Jack, NE NW NW, Sec. 10-4s-4w.
Gas show 1,510-12 ft. and 1,804-18 ft.; T.D. 1,869 ft.; S.D.

JOHNSON COUNTY

Okla. Oil Corp.'s No. 1 Tubbi, SW NE SE Sec. 11-2s-8.
At 2,061 ft. est. 1,000,000 ft. gas; 2,150 ft., H.F.W.; drlg. 2,154 ft.

MARSHALL COUNTY

Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
T.D. 4,937 ft.; S.D. for wtr.

MURRAY COUNTY

Gilcrease Oil Co.'s No. 1 Brown, SW cor. Sec. 26-1n-2e.
Drlg. 1,610 ft.

T. E. Revell et al's No. 1 Wolfe, NE cor. Sec. 18-1-1.
Water sand 2,475-83 ft.; drlg. 2,499 ft.

PUSHMATAHA COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-4s-20e.
Set csg. 410 ft.; S.D.

STEPHENS COUNTY

Carter Oil Co.'s No. 1 Hildebrand, C SW SE NE Sec. 1-3s-7w.
T.D. 1,755 ft.

Carter Oil Co.'s No. 1 McCasland, C NW NW SW Sec. 22-1s-4w.
Rig up.

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w.
S.D. 3,220 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w.
Rig.

La.-Ark. Wildcats

(Continued from Page 135)

Oynett et al's No. 1 Thomas, 330 ft. S and E, C Sec. 34-13-8.
S.D. for fuel 740 ft.

W. K. Williams' No. 1 DeMoss Est., 900 ft. S, 330 ft. W, NE cor. Sec. 33-13-11.
Set 7-in. 2,420 ft.

SABINE PARISH

J. F. Anderson's No. 1 Burkett, 135 ft. N, 455 ft. E, SW cor. NW Sec. 10-9-13.
W.O.S.R. 1,993 ft.

R. B. Campbell et al's No. 1 Cook Land Co., 150 ft. N, 300 ft. W, SE cor. NW NW Sec. 35-10-12.
W.O. csg. 1,586 ft.

G. H. Collins' No. 1 Bellieu & Carter, 220 ft. S and W, NE cor. NW SW Sec. 21-9-13.
Testing 2,070 ft.

De Generes et al's No. 3 Crawford, 330 ft. N and E, SW cor. NW NE Sec. 20-9-13.
Tested S.O.; S.D. 1,690 ft.

Graham & Dalton's No. 1 Burkett, 330 ft. N and W of C Sec. 16-9-13.
Set 6-in. 1,491 ft.; testing 1,520.

Earl P. Halliburton's No. 1 Paul, 330 ft. S and E, NW cor. SW SW Sec. 21-9-13.
Testing 2,070 ft.

Helena O. & G. Co.'s No. 6 Burkett, 330 ft. S and E, NW cor. NE Sec. 10-9-13.
Salt water and abd. 1,989.

Laurel Pet. Co.'s No. 6 Frost Ind., Sec. 29-9-13.
Set 10-in. 45 ft.; drlg. 1,100 ft.

Zan Lloyd's No. 1 Henderson, 330 ft. N and W, C Sec. 29-9-13.
W.O.S.R. 2,031 ft.

Dr. O. B. Hicks' No. 1 Neal, SE SW SE Sec. 18-9-13.
Set 10-in. 40 ft.

Geo. L. Pace's No. 2 DeSoto Corp., 1,020 ft. S, 990 ft. W, NE cor. SE Sec. 27-10-13.
Coring 2,908 ft.

L. L. Posey's No. 3 Burkett, 330 ft. S and E, NW cor. NE NW Sec. 10-9-13.
Abd., will not pump, 1,984 ft.

W. H. Rowe et al's No. 1 Craig, 330 ft. S and E of C Sec. 22-9-13.
S.D. 1,200 ft.

J. A. Stinson's No. 1 Whitney Corp., 330 ft. S and W, NE cor. Sec. 3-9-13.
W.O.S.R. 2,014 ft.

Stumpff & McFall's No. 1 Paul estate, Sec. 10-9-13.
S.W. and abd. 1,976 ft.

Valley-Osage Oil Co.'s No. 1 Burkett, 330 ft. S and W NE cor. SW NE Sec. 10-9-13.
Set 10-in. at 45 ft.; drlg. 1,554 ft.

RAPIDES PARISH

Ben Banner's No. 1 Bentley Lbr. Co., 2,640 ft. E, NW cor. Sec. 11-4n-5w.
S.D. for wtr. 2,296 ft.

Evans & Collingsworth's No. 1 Hickman, 330 ft. S and E, NW cor. Sec. 40-4-1e.
S.D. 2,130 ft.

C. D. Noe, Trustee's No. 1 Baird Est., SE cor. Sec. 40-5n-1w.
Rigging up.

WEBSTER PARISH

Abney Oil Corp.'s No. 3 Slack, 660 ft. N, 575 ft. W, SE cor. NE SE Sec. 36-23-11.
Set 10-in. 301 ft.; drlg. 1,646 ft.

M. J. Kissick's Trus. No. 1 Slack, 477 ft. S 325 ft. E NW cor. SW NW Sec. 18-23-10.
Drlg. 2,246 ft.

WINN PARISH

Red River Ref. Co.'s No. 1 Tremont Lbr. Co., 150 ft. N and W, SE cor. NE NE Sec. 35-11-1w.
Drlg. 1,533 ft.

ARKANSAS

COLUMBIA COUNTY

O. F. Whittaker's No. 1 Hall, C SE NE Sec. 10-16-20.
Comp. pumping 15 bbls. 2,156 ft.

CONWAY COUNTY

Sou. Union Gas Co.'s No. 1 Feldman, C SW SW Sec. 6-5n-17w.
S.D. 3,100 ft.

HEMPSTEAD COUNTY

Ark. Drlg. Co.'s No. 1 Jones, 1,000 ft. S, 600 ft. W, NE SE Sec. 11-14-24.
Set 10-in. 160 ft.

E. A. Austin's No. 1 McWilliams, 300 ft. N and W of SE cor. NW SW Sec. 19-13-23.
Set 10-in. csg. at 140 ft.

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26
S.D. 1,992 ft.

LAFAYETTE COUNTY

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-23.
Drlg. 2,340 ft.

Earl F. Fox's No. 1 Coleman Bros., 330 ft. N and W, SE cor. NW NE Sec. 36-16-25.
Set 10-in. at 80 ft.

LEE COUNTY

Ark.-La. P. L. Co.'s No. 1 McDonald, 1,500 ft. N, 370 ft. E, SW cor. Sec. 28-1n-4e.
Drlg. 2,850 ft.

MILLER COUNTY

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 300 ft. N, 330 ft. E, SW cor. SW NE Sec. 34-14-28.
S.D. 2,000 ft.

W. F. Lacey's No. 1 Gibson, 330 ft. S and E, NW cor. SW NW Sec. 30-19-27.
Coring 3,580 ft.

C. E. Murdock's No. 2 E. L. Beck, 330 ft. N and W, SE cor. Sec. 33-15-26.
Comp. pumping 350 bbls. 2,923 ft.

Oil Well Oil Corp.'s No. 1 Dodd, 300 ft. S, 200 ft. E, NW cor. SW NE Sec. 10-19-28.
S.D. 52 ft.

Texarkana Oil Corp.'s No. 3 E. H. Beck, 330 ft. S and W NE cor. SE SE Sec. 33-15-26.
Set 10-in. at 210 ft.; drlg. 1,440 ft.

Lee Timberlake et al's No. 1 E. L. Beck, 150 ft. N and E, SW cor. NW SE Sec. 33-15-26.
Coring 2,937 ft.

John Wrather's No. 1 Olivet, 809 ft. S, 150 ft. E, NW cor. NE.
W.O.S.R. 2,937 ft.

John Wrather's No. 1 Beck, SW cor. SW SE Section 34-15-26.
Rigging up.

E. L. Young, tr.'s No. 1 Patterson, SE cor. SE NE Sec. 5-19-28.
Csg. collapsed 2,406 ft.; T.D. 3,655 ft.

OUACHITA COUNTY

F. A. Beck et al's No. 1 Arnold, Sec. 34-15-16.
S.D. 2,032 ft.

L. L. McDonald's No. 1 Arnold & Doyle, 150 ft. N and W, SE cor. NE SW Sec. 22-15-16.
W.O.S.R. 2,121 ft.

J. D. Reynolds' No. 1 Guttry, 462 ft. S, 150 ft. W, NE cor. NE SW Sec. 21-15-19.
W.O.S.R. 1,506 ft.

UNION COUNTY

Alexander-Head Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. S and E, NW cor. SW SW Sec. 28-19-13.
Reaming to bottom 2,300 ft.

Mrs. R. K. Jones et al's No. 1 J. Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Arrng. to test 2,764 ft.

McCresienn Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. N and W, SE cor. NE NW Sec. 3-18-13.
Drlg. 850 ft.

Marine Oil Co.'s No. 2-B Union Saw Mill Co., 330 ft. N and E, SW cor. SW NW.
Set 7-in. 3,573 ft.

Tubal Pet. Co.'s No. 1 Gaddy, 340 ft. N and E, SW cor. SE NW Sec. 14-17-14.
S.D.; W.O. 3,416 ft.

MISSISSIPPI

AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 660 ft.

GREENE COUNTY

United Gas Public Service Co.'s No. 1 Davis, C NW Sec. 30-1n-5w.
Dry and abd. 7,439 ft.

ISSAQUENA COUNTY

Pelican Oil & Gasoline Co.'s No. 1 Steel Bayou Corp., 400 ft. N, 350 ft. E, SW cor. NW Sec. 14-12n-3w.
D.S. stuck 3,125 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 3 Watson, 530 ft. W, 200 ft. S, C Sec. 24-7n-13w.
Drlg. 1,720 ft.

SIMPSON COUNTY

Berry Corp.'s No. 3 R. T. Berry, Sec. 33-2n-4e.
Set 7-in. 2,048 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor. SW SE Sec. 24-2n-9e.
Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL Sec. 14-14-1e.
S.D. 3,169 ft.

WASHINGTON COUNTY

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-8w.
Set 10-in. 300 ft. and S.D. (corrected).

La.-Ark. Proven Fields

NORTH LOUISIANA

CADDO—BLANCHARD

Pyramid-Babare's No. 1 Hearne, 660 ft. N and E, SW cor. SE Sec. 34-19-16.
Salt water and abd. 933 ft.

CADDO—HOSSTON

Bayou State O. & G. Co.'s No. 1 Connell, 1,900 ft. N, 1,198 ft. E, SW cor. Sec. 15-21-14.
W.O.S.R. 964 ft.

Shore Line Oil Corp.'s No. 1 Harrell, 350 ft. N and W, SE cor. Sec. 3-22-16.
Swabbing to test 1,034 ft.

Shore Line Oil Corp.'s No. 1-B Standard, 350 ft. N and W, SE cor. Sec. 12-21-16.
P.B. to 1,055 ft.

Shore Line Oil Corp.'s No. 1-C Standard, 350 ft. S and E. NW cor NE Sec. 15-21-15.
Comp. 400,000 ft. gas 1,085 ft.

CADDO—RODESSA

Ark.-La. Pipe Line Co.'s No. 1 Parker, 725 ft. S, 450 ft. E, NW cor. NE NW, Sec. 26-23-16.
Rigging up.

Producers & Pyramid O. & G. Co.'s No. 2 Hammock, 660 ft. N and E SW cor. NW, Sec. 3-18-16.
Derrick.

SABINE PARISH—ZWOLLE

Alexander & Cane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
Drlg. 1,685 ft.

Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 13-7-11.
S.D. 750 ft.

Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12.
S.D. 1,100 ft.

Foster & Hartman's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. NE Sec. 10-7-12.
Tested dry 2,696 ft.

E. D. Holcomb's No. 1 Porter, 330 ft. S, 330 ft. W, NE cor. SE Sec. 7-7-11.
W.O.S.R. 2,580 ft.

H. C. Maulding's No. 3 DeLatin, 330 ft. S and E. NW cor. NE SE Sec. 3-7-11.
S.D. 1,700 ft.

Monroe Prod. Co.'s No. 7 Sabine Lbr. Co., 330 ft. N and E, SW cor. NW SE Sec. 11-7-12.
Comp. pumping 100 bbls., 2,399 ft.

Geo. L. Pace's No. 2 Phillips, 330 ft. N, 80 ft. W, SE cor. Sec. 25-8-12.
Junked hole, skidded over.

Pelican Nat. Gas Co.'s No. 33 La. Long Leaf, 183 ft. S, 283 ft. E, cen. Sec. 29-8-11.
Rigging up.

Pelican Nat. Gas Co.'s No. 14 Sabine Lbr. Co., 330 ft. N and W, SE cor. NE SW Sec. 11-7-12.
Testing 2,440 ft.

Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-3-12.
S.D. 1,590 ft.

EAST TEXAS (BORDER COUNTIES)

CASS COUNTY

United Gas Public Service Co.'s No. 1 Walton, John Coleman Sur.
Drlg. 5,420 ft.

R. K. Kamon et al's No. 1 Savage, Mary Patterson Sur.
S.D. 4,016 ft.

HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, E. D. Spain Sur.
P.B. to 3,524 ft.

PANOLA COUNTY

Givens & Holloway's No. 1 Wooten est., Winnie Mann Sur.
S.D. 750 ft.

R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Rigging up.

SHELBY COUNTY

Bush Oil Int.'s No. 1 Windham, W. M. Blackburn Sur.
S.D. 3,366 ft.

R. H. Davis' No. 1 Wooten est., Winnie Mann est.
Set 10-in. 60 ft.

Cliff Stovall's No. 1 Pickering Lbr. Co., C. H. Patterson Sur.
Set 10-in. 20 ft.

Turner & Neil's No. 1 Pickering Lbr. Co., P. W. Harvey Sur.
S.D. 250 ft.

ALABAMA

CLARKE COUNTY

Magnolia Pet. Co.'s No. 1 Scotch Lbr. Co., 350 ft. N, 310 ft. E, C Sec. 17-10n-3e.
Drlg. 3,890 ft.

HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-3n-29e.
Drlg. 1,900 ft.

Gulf Coast Wildcats

(Continued from Page 127)

Texas Co.'s No. 2 Houston Oil Field Association, 247 ft. from N line and 247 ft. from S line and 441 ft. from W line of Lot 43, A.C.H.&B. Sur., Sec. 91.
T.D. 4,216 ft.; will probably abandon.

Texas Oil Co.'s No. 1 Houston Oil Field Association, 330 ft. from W line and 265 ft. from S line of Lot 6, A.C.H.&B. Sur., Sec. 91.
T.D. 4,244 ft.; sidetracking 3,925 ft

Texas Co.'s No. 3 Houston Oil Field Assn., 247.5 ft. S, no deg. 28 ft. W and 419.4 ft. N 89 deg. 32 ft. W from NE cor. of Lot No. 16, A.C.H.&B. Sur. No. 91.
Derrick.

Texas Co.'s No. 2 Lieder, 646 ft. N, 330 ft. W of SE cor. of Lot No. 3, A.C.H.&B. Sur. No. 91.
Derrick.

Windsor Oil Co.'s No. 1 Colby, 325 ft. from NW line and 330 ft. from NE line of 50-ac. lease in T. Sproggins Sur.
Drlg shale and lime 4,340 ft.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 5 Seaborn, Austin-Williams Sur., 600 ft. E of No. 3 and 229 ft. S at R/A
Stuck D.S. 7,202 ft.; temp abnd.

WEST COLUMBIA—BRAZORIA COUNTY

Miramar Oil Corp.'s No. 3 Hogg, 100 ft. N of No. 2 and 100 ft. from W line of lease.
T.D. 5,360 ft.; P.B. 2,400 ft.; heaving shale 5,165 ft.; S.D.

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease in M. Varner Sur.
Drlg. shale, shells and lime at 4,836 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 3-B Gulf fee, 25 ft. out of SE cor. of lease.
Top salt 1,402 ft.; coring show oil 4,590 ft.

Mills Bennett Prod. Co.'s No. 9-B Wilburn, Henry Griffith league, 737 ft. E W line and 190 ft. S N line of lease.
Drlg. shale 3,398 ft.

Humble O. & R. Co.'s No. 6-B Kirby, 593 ft. N of S line, 388 ft. E of W line of lease, or 125 ft. N and 288 ft. W of No. 5.
T.D. 3,859 ft.; salt; reaming.

Moody Corp.'s No. 5-A E. W. Barber, 100 ft. E of W line and 70 ft. N of S line of lease.
Drlg. salt 3,244 ft.

Moody Corp.'s No. 6-A Barber, 75 ft. W of E line and 400 ft. N of S line of lease.
Drlg. salt 1,697 ft.

Sinclair Prairie Oil Co.'s No. 18-A Wilburn, Henry Griffith league, 150 ft. W of No. 17-A and 14 ft. S N line of lease.
T.D. 3,129 ft.; fshg.

Sun Oil Co.'s No. 9 Chambers Co., 181 ft. W of No. 8 and 50 ft. from N line of lease.
Top salt 1,379 ft.; T.D. 3,903 ft.; oil sand; W.O.C.

Sun Oil Co.'s No. 5 Higgins, 125 ft. W of No. 4.
Drlg 4,132 ft; show oil

Sun Oil Co.'s No. 22 Wilburn, midway betw. wells No. 17 and 21, or 150 ft. from each well.
Derrick.

Texas Co.'s No. 7 Wilburn, 116 ft. S of Humphrey's No. 8-H Kirby, in Henry Griffith league.
Drlg. sand and shale 4,330 ft.

Texas Gulf Prod. Co.'s No. 8 A. E. Barber, 400 ft. S of N line and 50 ft. E of W line of lease.
Drlg. hard lime and shale 5,301 ft.

Texas Gulf Prod. Co.'s No. 2 Eberspacher, 480 ft. from S line and center of strip No. 4.
Fshg. 524 ft.

Texas Gulf Prod. Co.'s No. 4 Wilburn, Wm. Hodges Sur., 330 ft. N of S line, 50 ft. W of E line.
T.D. 5,059 ft.; comp. 23 bbls. daily.

Yount Lee Oil Co.'s No. 24 Chambers County, 400 ft. W of No. 23 in line with No. 21.
T.S. 1,456 ft.; base salt 3,780 ft.; T.D. 4,026 ft.; prep. to swab.

Yount Lee Oil Co.'s No. 25 Chambers County, 75 ft. S, 50 ft. W of NE cor. of lease.
Drlg. hard sand 825 ft.

Yount Lee Oil Co.'s No. 26 Chambers County, 50 ft. N of S line and in line with Chambers Co.'s No. 2 and Sun's No. 9 Chambers.
Derrick.

Yount Lee Oil Co.'s No. 27 Chambers Co., 400 ft. W of No. 24 and in line with Nos. 24 and 21.
Derrick.

Yount Lee Oil Co.'s No. 7 Phillips, prep. to work over.
O.T.D. 4,477 ft.

Yount Lee Oil Co.'s No. 8 Phillips, Wm. Hodges Sur.
Top sand 3,354 ft.; T.D. 4,282 ft.; comp. 106 bbls. daily.

BLUE RIDGE—FORT BEND COUNTY

San Jacinto Oil Co.'s No. 4 Blakley, 2,460 ft. W of E line, 190 ft. S of N line of Edwards Drew Sur.
Rigging up.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 4 A. Hammerstrom, 2,900 ft. from N line, 4,100 ft. W of Brazos river, which is E line of Samuel Kennedy Sur.
T.D. 5,310 ft.; W.O.C.

Humble-Gulf's No. 28-A Lockwood & Sharp, 379 ft. from S line and 2,872 ft. from E line of "A" lease in J. Rabb Sur.
Derrick.

Humble-Gulf's No. 29-A Lockwood & Sharp.
Location.

Humble-Gulf's No. 28-D Lockwood & Sharp.
Location.

Humble-Gulf's No. 30-A Lockwood & Charp, 4,296 ft. W of E line and 293 ft. S of N line of lease in J. Rabb Sur.
Derrick.

Humble-Gulf's No. 31-A Lockwood & Sharp, 5,170 ft. W of E line and 292 ft. S of N line of lease in J Rabb Sur.
Derrick.

Humble-Gulf's No. 32-A Lockwood & Sharp, 6,391 ft. W of E line and 293 ft. S of N line of lease and 1,149 ft. W of No. 31-A in J. Rabb Sur.
Derrick.

Humble-Gulf's No. 33-A Lockwood & Sharp, 150 ft. W of E line and 293 ft. S of N line, being direct offset to Myers' No. 11 in J. Rabb Sur., Tract No. 2.
Location.

Humble-Gulf's No. 11 Meyers, 410 ft. W of E line of Myer 180-ac. tract and in center of tract being 292 ft. N of S line of John Rabb Sur.
Drlg. shale 4,299 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 40 Moore.
Drlg. sand 3,501 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 4 Broussary & Orme, M. Dunman Sur., 129 ft. SW of No. 3.
Top salt 4,565 ft.; T.D. 5,510 ft.; W.O.C.

Yount Lee Oil Co.'s No. 41 Cade, Fitzsimmons Sur.
Drlg. hard sand 3,895 ft.

Yount Lee Oil Co.'s No. 40 Cade, 430 ft. NW of No. 2-B, 360 ft. from E line of lease and in line with No. 39 and No. 2-B Fitzsimmons Sur.
Drlg. hard sand 4,525 ft.

Yount Lee Oil Co.'s No. 22 Smith.
Drlg. sand 4,362 ft.; no report.

Yount Lee Oil Co.'s No. 24 Smith.
Sand 5,929 ft.; S.D.

Yount Lee Oil Co.'s No. 42 Cade, N. Fitzsimmons Sur., half way between Nos. 26 and 28 and 150 ft. E at right angles.
Derrick.

Yount Lee Oil Co.'s No. 1 Maco Stewart, Martin Dunman Sur.
Rigging up.

ARRIOLA—HARDIN COUNTY

Republic-Houston's No. 2-X Arriola fee.
Drlg. shale 6,064 ft.

Republic-Houston Oil Co.'s No. 8 fee.
Drlg. hard sandy lime 4,524 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 110 Jordit, 200 ft. due S No. 109.
T.D. 1,484 ft.; swbd. S.W.; T.D. 1,436 ft.; to put on pump.

Rio Bravo Oil Co.'s No. 4 E. Jordit, 200 ft. due W of No. 109 Jordit.
Moving in rig.

Sinclair Oil Co.'s No. 1 Teel Estate, 2,685 ft. W of E line of league, 4,285 ft. S of N line of league, or 1,032 ft. S of N line and 717 ft. W of E line of 134-ac. tract.
Drlg. sandy shale 5,440 ft.

Skinner Oil Co.'s No. 3 Sessler.
T.D. 2,230 ft.; lost returns; S.D.

SOUR LAKE—HARDIN COUNTY

Alpha Pet. Co.'s No. 1 J. M. Weiss, 122 ft. S of Steinberger's No. 1 Weiss in Blk. 25.
T.D. 7,012 ft.; circulating.

Alpha Pet. Co.'s No. 2 Weiss estate, 66 ft. N and 100 ft. W from SE cor. of 5-ac. tract in Lot 25, H. Williams Sur.
Location.

Humble O. & R. Co.'s No. 1 Kirby et al, 140 ft. E W line and 300 ft. S N line of old Gulf 170-ac. tract, S. Jackson Sur.
Drlg. sand 5,765 ft.

Parr et al's No. 1 Benard, in W.C.R.R. Sur. No. 69 (west edge).
T.D. 7,061 ft.; P.B. 4,800 ft.; making est. 25 bbls. daily.

Steinberger Pet. Co.'s No. 1 Weiss, 150 ft. W of Parr No. 1 and 50 ft. out of SE cor. of Blk. 28, H. B. Williams Sur.
Location.

Texas Co.'s No. 309 fee, 302 ft. S and 48 ft. E of No. 308 fee, in Stephens Jackson League.
Drlg. sticky shale 1,687 ft.

Yount Lee Oil Co.'s No. 6 Lynn, 250 ft. from W line and 200 ft. from N line of 43-ac. tract in Sour Lake Oil Co. Sub.
T.D. 7,461 ft.; abnd.

GOOSE CREEK—HARRIS COUNTY

Herring's No. 1 Williams, 180 ft. from SE cor. and 55 ft. NE of Hybush's No. 3, in W. Scott upper league.
Cellar.

Humble O. & R. Co.'s No. 80 Simms-Smith.
Drlg. shale 3,535 ft.

Humble O. & R. Co.'s No. 28 Sweet, 13 ft. W of SE cor. of Scott 2½-ac. tract and 53 ft. from N line of lease, Wm. Scott Sur. No. 67.
Location.

Humble O. & R. Co.'s No. 29 Sweet, 418 ft. from N line of Sweet lease and 33.8 ft. E of SW cor. of Hanzen's 1-ac. tract in Wm. Scott Sur.
T.D. 4,025 ft.; abnd.

Jay Simmons' No. 1 Dannebaum, 45 ft. from S and 50 ft. from E lines of lease in W. Scott Labor Sur.
Derrick.

HUMBLE—HARRIS COUNTY

Imperator Oil Co.'s No. 1 N. N. Lee, 400 ft. from E line and 150 ft. from N line of 88-ac. tract in E. Ruhl Sur.
Coring black sand and shale 2,650 ft.

Rio Bravo Oil Corp.'s No. 8 fee, 250 ft. E, 100 ft. S of No. 2 fee.
T.D. 4,660 ft.; abnd.

Texas Co.'s No. 48 Stevenson, 485 ft. S and 350 ft. E of NW cor. of Lot No. 1-A, J. B. Stevenson Sur.
T.D. 494 ft.; W.O.C.

PIERCE JUNCTION—HARRIS COUNTY

Benedum & Trees' No. 1 W. J. Settegast, 3,629 ft. from S line of Sur., and 100 ft. from E line of tract in the J. Kopman Sur.
Rigging up and S.D.

Gulf Prod. Co.'s No. 10 H. C. Cain, 399 ft. S and 290 ft. E of NW cor. of lease and 217 ft. N of No. 9, 160-ac. tract in J. Hamilton Sur. No. 879.
Drlg. sticky shale 4,753 ft.

Hamil & Smi.h's No. 1 Gulf fee, 54 ft. from N cor. of Lot No. 24, and 413 ft. from W line of No. 24, on line between Lots 23 and 24, W. H. Torres Subd., B.B.B.&C. Sur. No. A-178.
T.D. 3,432 ft.; comp. 400 bbls. day through ⅝-in. choke.

Rio Bravo Oil Corp.'s No. 9-A Settegast, 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur.
T.D. 4,510 ft.; rigging up to work over; standing.

Rio Bravo Oil Corp.'s No. 12-A Settegast, 1,410 ft. N line, 650 ft. E line, J. A. Kopman Sur.
T.D. 5,433 ft.; drlg. shale 5,380 ft.

TOMBALL—HARRIS COUNTY

Amerada-Rycade's No. 1-A Metzler, J. House Sur.
Drlg. 1,068 ft.

Houston Oil Co.'s No. 1 Fred Heard, 335 ft. from N line and 691 ft. from E line of lease in J. M. Hooper Sur.
Drlg. 5,578 ft.

Humble-Magnolia's No. 2 C. F. W. Hendricks, 966 ft. S of N line and 466 ft. W of E line of 96-A. tract in Wm. Heard Sur.
T.D. 977 ft.; W.O.C.

Humble-Magnolia's No. 1 Krug, 600 ft. N and 187 ft. E from SW cor. of J. F. W. Kobs, 30.6-ac. tract in J. H. Edwards Sur.
Location.

Humble-Magnolia's No. 2 Krug, 466 ft. from E line of lease and 800 ft. S of S line of Sherer 112-ac. tract in J. H. Edwards Sur.
Location.

Humble & Magnolia Pet. Co.'s No. 2 B. J. Petrick, 700 ft. S of N line, 1,171 ft. W of E line of lease in J. M. Hooper Sur. No. A-372.
Derrick.

Humble O. & R. Co.'s No. 3-B M. A. Quilter, 466 ft. from N line and 330 ft. from W line of most northerly NW cor. of 306-ac. "B" lease.
T.D. 5,546 ft.; W.O.C.

Humble O. & R. Co.'s No. 1 F. Theis, 550 ft. from S line and 584 ft. from E line of 175-ac. tract in C. N. Pillot Sur.
T.D. 5,560 ft.; W.O.C.

Humble-Magnolia's No. 2 Jacob Theis, O. Goodrich Sur. No. A-311.
Drlg. lime 4,018 ft.

Sun and Humble O. & R. Co.'s No. 1 Metzler, 34 ft. N and E of NE cor. of 2-ac. graveyard in 90-ac. lease in C. N. Pillot Sur. No. 632.
Drlg. shale and lime 4,914 ft.

Texas Co.'s No. 2 R. W. Hirsch, 100 ft. from N line and 364 ft. from W line of 57-ac. lease in J. House Sur.
T.D. 5,602 ft.; comp. 11 bbls. hr. 16/64-in. choke.

Texas Co.'s No. 3 Hirsch, 466 ft. W of E line and 100 ft. N of S line of lease.
Location.

FANNETTE—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 15 Thomas, 200 ft. W of Gulf's No. 7 Burrell.
Derrick.

CLEVELAND—LIBERTY COUNTY

Gulf Prod. Co.'s No. 5-C Kirby, 944 ft. W, 500 ft. S of No. 4-C in the J. Pleasant Sur.
Clearing location.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 3 Davis, 400 ft. N of No. 2, Joseph Kokernut Sur.
Location.

General Crude Oil Co.'s No. 4 Davis, 400 ft. N of No. 3, Joseph Kokernut Sur.
Location.

General Crude's No. 13 Moore's Bluff, 150 ft. W of E line and 2,100 ft. S of N line of lease and 1,000 ft. N of No. 12.
Location.

General Crude Oil Co.'s No. 8 Davis, 660 ft. from S and 1,000 ft. from E line of lease in D. Kokernut Sur.
T.D. 4,107; prep. to make D.S. test.

HANKAMER—LIBERTY COUNTY

George Devore et al's No. 1 S. E. Exell, 175 ft. S of Gulf's No. 1 and 165 ft. from E line of 175-ac. lease in Levi Barrow Sur.
Derrick.

Mirimar Oil Co.'s No. 2 Crow & Jacobs, H. &T.C. Sur. No. 21.
Drlg. hard lime 5,582 ft.

HULL—LIBERTY COUNTY

Flynn's No. 2 Flynn, J. Devore Sur.
T.D. 1,500 ft. S.D.

Gulf Prod. Co.'s No. 104 Phoenix, 2,479 ft. from W line and 1,115 ft. from S line of 300-ac. tract in J. Devore Sur.
Drlg sand 4,000 ft.

Gulf Prod. Co.'s No. 103 Phoenix.
T.D. 4,082 ft.; comp. 112 bbls. daily.

Hanna Oil Co.'s No. 1-B Hanna, 50 ft. E line and 533 ft. S line of 20-ac. lease in J. Devore Sur.
Drlg. rock 775 ft.

Republic Prod. Co.'s No. 153 Dolbear, 400 ft. N and 45 deg E. from No. 151, in the J. Devore Sur.
Drlg. sand and shale 5,333 ft.; no report.

Republic Prod. Co.'s No. 155 Dolbear.
Spud.

Sun Oil Co.'s No. 8-A Carr, 224 ft. from N line and 563 ft. from W line of lease in J. Devore Sur.
Drlg. shale 4,205 ft.

Sun Oil Co.'s No. 9-A Carr, 223 ft. from N line and 307 ft. from W line of lease in J. Devore Sur.
Derrick.

Texas Co.'s No. 9 Hannah, 250 ft. N and 200 ft. W of No. 5 Hannah.
Drlg. sand and gravel 597 ft.

LIBERTY COUNTY

Mrs. I. M. Lemon Oil Co.'s No. 1 Richardson, 120 ft. E of Gulf & Humble's No. 1 Carter, in M. G. White Sur.
T.D. 3,882 ft.; rerun tubing; standing.

MARKHAM—MATAGORDA COUNTY

Hamill & Hamill's No. 1 Hudson, SE side of dome.
Drlg. shale 3,440 ft.

Hawkins Oil Co.'s No. 1 Hawks fee, 1,350 ft. from N line and 1,650 ft. from E line of 20-ac. lease.
T.D. 600 ft.; W.O.C.

Powers Prod. Co.'s No. 2 N. R. Myers, 100 ft. from N and 150 ft. E. of SE¼ of Blk. No. 1.
Drlg. shale 3,311 ft.

Rio Bravo Oil Co.'s No. 1 Sisk, 500 ft. N. 650 ft. W SE cor. of R. J. Sisk's 158-ac. tract in Lot 2, Wm. Haddon league.
Drlg. shale and lime 2,761 ft.

CONROE—MONTGOMERY COUNTY

American Liberty Oil Co.'s No. 2 Allen.
Drlg. shale 4,942 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 1 E. E. Hensley, 467 ft. from S line and 466 ft. from W line of lease in A. Steele Sur.
Spud.
Gulf Coast Drlg. & Prod. Co.'s No. 2 E. E. Hensley, 933 ft. from No. 1 and 466 ft. from W line of lease.
TD. 5,125 ft.; comp. 471 bbls. day ¼-in choke.
Gulf Coast Drlg. & Prod. Co.'s No. 2 J. L. Hensley.
T.D. 5,095 ft.; comp. 429 bbls. day through ¼-in. choke.
Gulf Coast Drlg. & Prod. Co.'s No. 3 J. L. Hensley, 667 ft. from No. 2 and midway between E and W lines of lease in A. Steele Sur.
Moving in rig.
Gulf Coast Drlg. & Prod. Co.'s No. 4 J. L. Hensley, A. Steele Sur.
Rig up.
Gulf Coast Drlg. & Prod. Co.'s No. 3 E. E. Hensley.
T.D. 5,030 ft.; comp. 417 bbls. day through ¼-in. choke.
Humble Oil & Ref. Co.'s No. 26 Keystone Mills.
Drlg. shale 2,806 ft.
Humble O. & R. Co.'s No. 39 Madeley.
T.D. 5,139 ft.; W.O.C.
Humble O. & R. Co.'s No. 66-A South Texas Dev. Co.
T.D. 5,187 ft.; W.O.C.
Humble O. & R. Co.'s No. 8-D South Texas.
5,140 ft.; W.O.C.
Pine Tree Oil Co.'s No. 1 South Texas.
Shale 5,182 ft.; W.O.C.
Strake Oil Co.'s No. 3 Hammond.
S.D. 4,800 ft.
Sun Oil Co.'s No. 14 Keystone Mills, 1,760 ft. from N line, 2,274 ft. from W line of lease in A. Steele Sur.
T.D. 5,139 ft.; reaming to set csg.
Sun Oil Co.'s No. 2 South Texas, 943 ft. N of No. 1 and in center of lease E and W in T.&N.O. Sur. No. 5.
T.D. 5,136 ft.; cutting liner.
Texas Co.'s No. 18 Moody, N 60 deg., E 2,919 ft. N 30 deg. W 253 ft. from SW cor. of Ransom Sur. (workover).
T.D. 5,125 ft.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.83-ac. tract in W. M. Dyson Sur.
Rig up.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 1 Orange Natl. Bank, 150 ft. E and 150 ft. S of NW cor. of tract in Jacob Beaumont Sur.
T.D. 799 ft.; comp. 100 bbls. day on pump.
Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur.
T.D. 6,708 ft.; sidetracking at 5,070 ft.

LIVINGSTON—POLK COUNTY

Gem Oil Co.'s No. 1 Davis Holmes, 350 ft. N and E from most northerly SE cor. of A. E. Munson trac. in A. Viesca Sur.
T.D. 4,346 ft.; comp 57 bbls. oil ¼-in. ch.; T.P. 3,200 lbs.; C.P. 1,200 lbs.
T. D. Humphries' No. 1 J. C. Whitforth, Block H.
Derrick.
H. B. Owenby's No. 1 Duff, 78 ft. N of S line, 656 ft. W of E line of lease in A. Viesca Sur.
T.D. 4,350 ft.; S.D.
Wer y et al's No. 1 Dick & Failing, 1,421 ft. W of E line and 330 ft. N of S line of tract in A. Viesca Sur.
T.D. 4,344 ft.; prep. to test; D.S. test 4,317-42 ft.; 15 min.; ¾-in. choke top and bottom; 20 fourbles oil, 2 fourbles mud cut with oil and fresh wtr.; 250 lbs. pressure. Spraying 10 to 15 bbls. daily; T.P. 1,500 lbs.

GRETA—REFUGIO COUNTY

Atlantic & Stanolind's No. 64 J. M. O'Brien, 466 ft. E line of lease and 933 ft. N of Winfield Sur. No. 63.
Drlg. 1,000 ft.; no report.
Floboots Oil Co.'s No. 2-D J. M. O'Brien, E. H. Winfield Sur., 466 ft. S N line and midway E and W lines. Blk. 12.
T.D. 4,408 ft.; comp 350 bbls. day; T.P. 525 lbs.; C.P. 455 lbs.
Floboots Oil Co.'s No. 3 E. O'Brien, 466 ft. from S line and 503 ft. from E line of E. H. Winfield Sur., Block 23.
Derrick.
Floboots Oil Co.'s No. 4-E O'Brien, 466 ft. from S line and 503 ft. from E line of Winfield Sur., Block No. 22.
Moving in.
Floboots Oil Co.'s No. 2-F O'Brien, Peoples Sur., 466 ft. S N line and midway E and W lines, Blk. 8.
T.D. 4,386 ft.; comp. 500 bbls. day 3/16-in. ch.; T.P. 475 lbs.; C.P. 600 lbs.
Floboots Oil Co.'s No. 3-F O'Brien, 466 ft. from S and E lines of Block No. 25 in Peoples Survey.
T.D. 301 ft.; W.O.C.
Hewitt & Dougherty's No. 8 Lambert, 460 ft. from N line and 507 ft. from E line of Blk. 18, E. W. Harper Sur.
T.D. 1,106 ft.; W.O.C.
Hewitt & Dougherty's No. 23 M. F. Lambert, 466 ft. from S line and 507 ft. from E line of Blk. 16, Hardwick Sur.
Drlg. shale 3,317 ft.; no report.
Houston Oil Co.'s No. 15 Heard, 660 ft. SE of No. 14 and 330 ft. NE of S line of lease.
T.D. 826 ft.; W.O.C.
Houston Oil Co.'s No. 15 F. B. Rooke, from SE cor. of lease 806 ft. N along E line, thence 150 ft. W at R/A in Mullin Sur.
T.D. 740 ft.; W.O.C.
Houston Oil Co.'s No. 6 M. H. Ryals, 1,050 ft. from N line and center of E and W lines of lease.
Drlg. sand 3,566 ft.
Humble O. & R. Co.'s No. 5 Fannie Heard, 1,490 ft. from S line, 450 ft. from W line of 337-ac. tract in Crunk Sur.
T.D. 4,380 ft.; W.O.C.
Humble O. & R. Co.'s No. 4 Fannie Heard, 1,216 ft. from E line, 466 ft. from N line of lease in Ximines Sur.
T.D. 5,775 ft.; P.B. to 4,404 ft.; drlg. shale 5,920 ft.
Humble O. & R. Co's No. 7 J. F. B. Heard, 1,107 ft. N and 466 ft. from W line of 500-ac. lease in Peoples Sur.
T.D. 4,389 ft.; testing.
Humble O. & R. Co.'s No. 8 J. F. B. Heard, 933 f.. N of No. 6 and 933 ft. E of No. 3, in Peoples Sur.
Drlg. clay 285 ft.
Stanolind O. & G. Co.'s No. 3-A J. M. O'Brien, Peoples Sur., begin at NE cor. of "A" lease, thence W along N line 1,509 ft.; thence S at right angles 466 ft.; S offset to No. 4-B.
S.D. 4,384 ft.
United Prod. Co.'s No. 15 Fox, 830 ft. W of No. 2-A in Wm. Hews and L. Brown Sur.
T.D. 5,831 ft.; drlg plug.
United Prod. Co.'s No. 17 Wilson Heard, 231 ft. S of No. 5.
Set surface csg.
United Prod. Co.'s No. 8 Lambert.
T.D. 4,382 ft.; plugging back.
United Prod. Co.'s No. 8 J. A. Lambert, 855 ft. N of NW cor. of W. Heard tract and 150 ft. W of tract line.
O.T.D. 3,584 ft.; coring 4,511 ft.
United Prod. Co.'s No. 9 Lambert, 466 ft. S line and 507 ft. E line of Blk. 17, H.& D. Subd. of Hardwick Sur., Abst. 159.
T.D. 4,438 ft.; W.O.C.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 2 Mrs. A. Draeger, 1,200 ft. E of W line and 800 ft. N of S line of 205-ac. tract in J. F. Perry Sur.
Location.
Sun Oil Co.'s No. 9 Janner.
Spud.
Sun Oil Co.'s No. 3 Schermer, N. Clay Sur., 330 ft. NW, 330 ft. SW line of lease.
T.D. 4,843 ft.; abnd.

SOUTH LOUISIANA FIELDS
BLACK BAYOU—CAMERON PARISH

Brownie Babbette Oil Co.'s No. 1 R. A. Moore, 562 ft. W, 50 ft. S of NE cor. of E½ of SE Sec. 18-12s-12w.
Prep. to work over; T.D. 6,642 ft.; sidetracking 6,360 ft.
Shell Pet. Corp.'s No. 2 State.
T.D. 6,002 ft.; setting whipstock 4,700 ft.
Shell Pe.. Corp.'s No. 18 Watkins.
Building derrick.
Shell Pet. Corp.'s No. 19 Watkins fee, 1,260 ft. S. 2,185 ft. W of NE cor. Sec. 18-12-12.
Drlg. 1,628 ft.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Humble O. & R. Co.'s No. 1 Joseph Berb, located on 100-ac. tract lease in Sec. 21-8s-3e, about a mile and a half NW of the producer.
Location.
Shell Pet. Corp.'s No. 1 E. M. Eliaboutrout, in Sec. 22-8s-3e, 1½ miles due N of discovery well.
Location.
Standard Oil Co. of Kans.' No. 1 Joseph Mouton.
T.D. 1,395 ft.; S.D.
Superior Oil Co.'s No. 1 J. Sidney Arcenaux et al, 1,665 ft. N and 439 ft. W of SE cor of Sec. 3-8s-3e.
Drlg. sand and shale 8,287 ft.
Superior Oil Prod. Co.'s No. 1 Mrs. Estelle Comeaux and others' 675.6 ft. W and 511.4 ft. S of NE cor. of Sec. 34-8s-3e.
Foundation.
Superior Oil Producing Co.'s No. 1 Sidney Fall, 542.9 ft. W and 511.4 ft. N of SE cor. Sec. 27-8s-3e.
Cellar.
Superior Oil Prod. Co.'s No. 1 Eddie Prejean (Alex Forrestier), 2,021.3 ft. W and 439.4 ft. S of NE cor. of Sec. 34-8s-3e.
Foundation.
Superior Oil Co.'s No. 1 Leo E. Kahan et al, 2,381 ft. N and 468 ft. W of SE cor. of Sec. 33-8s-3e.
Drlg. shale and junk 6,131 ft.
Superior Oil Prod. Co.'s No. 1 Walter V. Larcade, 462.4 ft. N and 500.2 ft. S of NW cor. of Sec. 35-8s-3e.
Location.
Superior Oil Prod. Co.'s No. 1 Euclide LeBlanc, 1,873 ft. S and 673.2 ft. W of NE cor of Sec. 33-8s-3e.
Location.
Superior Oil Prod. Cor.'s No. 1 Lucien Lavergne, 596 ft. E and 330 ft. N of SW cor. of Sec. 27-8s-3e.
Location.
Superior Oil Prod. Co.'s No. 1 Moise Lavergne, 269.7 ft. W and 98 ft. N of SE cor. of Sec. 28-8s-3e.
Location.
Superior Oil Prod. Co.'s No. 1 Auguste Martinez, 2,510.6 ft. S and 1,057.2 ft. W of NE cor. of Sec. 35-8s-3e.
Rig up.
Superior Oil Co.'s No. 1 Eliza Mire, 890 ft S and 597 ft. W of NE cor. of Sec. 32-8s-3e.
T.D. 8,088 ft.; comp. 1,096 bbls. day, 17/64-in. ch.; T.P. 1,410 lbs.; C.P. 1,600 lbs.; 39.2 grav.
Superior Oil Co.'s No. 1 Looanstie Richard, 2,878 ft. S and 465 ft. W of NE cor. of Sec. 34-8s-3e.
T.D. 7,902 ft.; rmng.
Superior Oil Prod. Co.'s No. 1 Leonard Savole, 814 ft. W and 658 ft. N of SE cor. Sec. 26-8s-3e.
Derrick.
Superior Oil Co.'s No. 1 Marcellus Savoie, 2,201 ft. S and 761 ft. W of NE cor. of Sec. 27-8s-3e.
Drlg. shale 7,834 ft.

CAILLOU ISLAND—TERREBONNE PAR.

Texas Co.'s No. 12 State Caillou Island, 2,420 ft. E and 73 ft. S of NW cor. of Sec. 20-23s-20e.
Drlg. shale 145 ft.
Texas Co.'s No. 13 State Caillou Island, 500 ft. SW of No. 11 well.
Drlg. sand 3,970 ft.; no report.

CALCASIEU LAKE—CAMERON PARISH

Texas Co.'s No. 10-A State, 16,855 ft. W and 3,270 ft. N of NE cor. Sec. 1-14s-9w in Twp. 13s-9w.
Drlg. shale 6,366 ft.

CAMERON MEADOWS—CAMERON PAR.

Burton Sutton Oil Co.'s No. 1 School Land, moving in to work over.
T.D. 4,381 ft.
Burton-Sutton Oil Co.'s No. 4 School Land, 2,891 ft. W and 150 N of SE cor. of Sec. 16-4s-13w.
Derrick.
Humble O. & R. Co.'s No. 8 Cameron Meadows, 2,895 ft. W, 150 ft. S of NW cor. Sec. 21-14s-13w.
T.D. 5,548 ft.; stuck D.S.
Humble O. & R. Co.'s No. 1-B Cameron Meadows, 250 ft. W and 2,640 ft. S of NE cor. of Sec. 24-14s-14w.
Drlg. shale 5,896 ft.
Texas Co.'s No. 1 Miami Corp.
Drlg. hard sand; slight show oil, 5,071 ft.

CHOCTAW FIELD—IBERVILLE PARISH

Standard Oil Co. of Louisiana's No. 6 Myrtle Grove Wilbert, Sec. 52-9s-11e.
Drlg. sand rock 3,337 ft.

EDGERLY—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Hunter, 1,366 ft N 425 ft. W of SE cor. SW Sec. 21-9s-11w
Drlg. gumbo 2,529 ft.

FOUR ISLAND—TERREBONNE PARISH

Texas Co.'s No. 6 State, Four Island.
Dredging canal.
Texas Co.'s No. 7 State, Four Island.
Dredging canal.

GARDEN ISLAND—PLAQUEMINES PAR.

Texas Co.'s No. 11 Garden Island, 4,191 ft. S and 1,504 ft. W of NE cor. Sec. 107-23s-32e.
Sidetracking shale 1,607 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w.
T.D. 7,669 ft.; W.O.C.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 2 Hanszen, 400 ft. W and 200 ft. S of No. 1 in Sec. 14-12s-10w
T.D. 6,462 ft.; standing.
H. E. Dawton's No. 1 Kaugh.
Derrick.
Gulf Prod. Co.'s No. 14-A Irwin, 300 ft. SE of No. 13-A.
Drlg. sand 6,990 ft.
Wilfred LaHay's No. 1 Roux, Sec. 36-12s-10w.
Shale 3,986 ft.; no report.
Sutton Oil Co.'s No. 1 Portier, 2,920 ft. W and 1,220 ft. N of SE cor. of Sec. 23-12s-10w.
Drlg. 2,800 ft.
Texas Co.'s No. 12-B State, 500 ft. SE of No. 10-B or 1,360 ft. E and 149 ft. S of NE cor. of Sec. 13-12s-10w.
Rig up.
Union Sulphur Co.'s No. 1 Barlee est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 13-12s-10w.
T.D. 7,986 ft.; sidetracking 5,696 ft.
Union Sulphur Co.'s No. 9 Humble, 300 ft. E and slightly N of No. 1 well, or 330 ft. N and 270 ft. E of the SW cor. of Sec. 12-12s-10w.
T.D. 6,000 ft.; salt; P.B. 5,380 ft.; W.O.C.
Yount Lee Oil Co.'s No. 11 Gulf Land, Sec. 14-12s-10w.
T.D. 7,044 ft.; sidetracked to 6,098 ft.; comp. 300 bbls. day ⅝-in. ch.
Yount Lee Oil Co.'s No. 14 Gulf Land.
T.D. 5,456 ft.; comp. 250 bbls. oil on 5/16-in. ch.

NEW IBERIA—IBERIA PARISH

G. D. Spell's No. 1 Sadator, 25 ft. NW of No. 1 in A. B. Bernard Sur., Sec. 54.
Location.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 2 Caffal.
Drlg. hard sand 6,293 ft.
Barnsdall Oil Co.'s No. 6 Fontenot, 330 ft. from N and W lines of lease in Sec. 7-9s-6w.
Drlg. shale 6,177 ft.
Magnolia Pet. Co.'s No. 2 Gillison, 990 ft. W and 200 ft. N of SE cor. of lease in Sec. 12-9s-7w.
T.D. 6,996 ft.; sand, show oil; run 7-in. csg.
Magnolia Pet. Co.'s No. 7 Wait.
Drlg. sandy shale 6,535 ft.
Shell Pet. Corp.'s No. 2 Ardoin.
T.D. 7,337 ft.; P.B. to 7,020 ft.; W.O.C., 6,997 ft.
Shell Pet. Corp.'s No. 8 Fontenot, 330 ft. out of NE cor. of lease.
Rig up.
Shell Pet. Corp.'s No. 8 Heyd.
Drlg. hard sand 7,146 ft.
Shell Pet. Corp.'s No. 2 C. L. Johnson, 330 ft. out of SE cor. of 80-ac. lease, and offset to Magnolia's No. 6 B. T. Wait.
Rig up.
Shell Pet. Corp.'s No. 1 Scott, 230 ft. out of NW cor. of lease.
Derrick.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 14 Housierre-Latrielle, 260 ft. N of No. 12, Sec. 47-9s-2w.
Drlg. shale 1,740 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E., 4,543 ft. S. 503 ft. W of NW cor. Sec. 30-21s-20e.
T.D. 3,690 ft.; S.D.
Texas Co.'s No. 11 L.L.&E., Sec. 30-21s-20e.
Drlg. shale 2,709 ft.
Texas Co.'s No. 24 Lake Barre.
Drlg. shale 3,780 ft.
Texas Co.'s No. 25 Lake Barre.
Drlg. rock 1,250 ft.
Texas Co.'s No. 26 Lake Barre, 150 ft. N from No. 22, Sec. 30-21s-20e.
Drlg. 1,297 ft.

LAKE PELTO—TERREBONNE PARISH

Texas Co.'s No. 11 Lake Pelto, 1,600 ft. SW of No. 5.
Drlg. water sand 4,710 ft.
Whitestone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E of NW cor. SW SW Sec. 35-19s-16e.
Drlg. rock 2,300 ft.

LEESVILLE—LAFOURCHE PARISH

Robert Bowles' No. 1 Crosby.
Drlg. shale 4,460 ft.
Emerald Pet. Corp.'s No. 4 State of Louisiana.
Set 7⅝-in. csg. 3,965 ft.
Emerald Pet. Corp.'s No. 5 State of La., 1,878 ft. N of No. 1 well in Sec. 26-21s-22e.
Set 7⅝-in. csg. 3,662 ft.
Emerald Pet. Corp.'s No. 7 State of La., 1,078 ft. N of No. 1.
Derrick.
Emerald Pet. Corp.'s No. 8 State of La., 455 ft. N of No. 1.
Derrick.
Emerald Pet. Corp.'s No. 9 State of La., 600 ft. S of No. 1.
Derrick.
Gulf Prod. Co.'s No. 2 Allen Land.
Drlg. hard sand 3,726 ft.
Gulf Prod. Co.'s No. 6 Bernard, 15 ft. N and 85 ft. E of NW cor. of Lot No. 4, Sec. 26-21s-22e.
Derrick.
Frank L. Hill's No. 1 Bernard, 1,422 ft. N and 808 ft. E of SW cor. Sec. 26-21s-22e.
Drlg. shale 3,520 ft.
Lincoln Oil Co.'s No. 1 Constantine.
Drlg. sand 4,218 ft.
Lincoln Oil Co.'s No. 1 Visier. (W.O.).
Drlg. sand 3,878 ft.
Prince Oil Co.'s No. 2 Deramee & Nicol.
T.D. 3,671 ft.; W.O.C.
Texas Co.'s No. 17 L.L.&E., 1,821 ft. S and 122 ft. E of NW cor. of Sec. 27-21s-22e.
T.D. 4,825 ft.; dry and abnd.
Texas Co.'s No. 19 L.L.&E., Sec. 27-21s-22e.
Drlg. lime 3,078 ft.
Texas Co.'s No. 20 L.L.&E., Sec. 27-21s-22e.
Rigging up.
Texas Co.'s No. 22 L.L.&E.
Drlg. 746 ft.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 12 Bordages, 966 ft. W and 93 ft. N of SE cor. N½ NE Sec. 8-10s-19w.
Derrick.
Magnolia Pet. Co.'s No. 26 Miller, 480 ft. S. 780 ft. E NW cor. SW¼ NW¼ Sec. 9.
T.D. 4,388 ft.; comp. 60 bbls. day on ⅝-in. choke.
Magnolia Pet. Co.'s No. 32 Miller, 925 ft. E, 480 ft. S of NW cor. of S½ of NW of Sec. 9-10s-9w.
Rig up to work over.
Magnolia Pet. Co.'s No. 34 Miller, Sec. 9-10s-9w.
Drlg. shale 3,796 ft.
Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, NE cor. SW SE Sec. 16-12s-10w, 2-ac. tract.
T.D. 7,461 ft.; sidetracking 4,485 ft.
Union Sulphur Co.'s No. 6 Moss, between No. 2 and No. 5.
Drlg. shale 6,419 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 6 Wilson-Cochran.
Drlg. sand 3,049 ft.
Texas Co.'s No. 21 Botney Bay, 2,400 ft. S, 8 deg. W of most southerly NE cor. of Botney Bay 562-ac. tract, thence 600 ft. N, 82 deg. W. at R/A.
Location.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 26 United Land.
Drlg. shale 5,033 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 35 Lutcher Moore, Sec. 19-9s-8w.
Drlg. sand 3,599 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 776 fee.
T.D. 4,774 ft.; prep. to set screen.
Union Sulphur Co.'s No. 788 fee, 602 ft. S 1,209 ft. W of C Sec. 29-9s-10w.
T.D. 6,103 ft.; drlg. shale 5,117 ft.
Union Sulphur Co.'s No. 794 fee.
Drlg. 5,093 ft.
Union Sulphur Co.'s No. 795 fee.
Set surface csg.
Union Sulphur Co.'s No. 796 fee.
Salt 2,317 ft.; setg whipstock to sidetrack.
Union Sulphur Co.'s No. 797 fee, 1,682 ft. W, 418 ft. N of C of Sec. 29-9s-10w.
Coring oil sand 3,396 ft.
Union Sulphur Co.'s No. 798 fee, 673 ft. N, 575 ft. W of C Sec. 29-9s-10w.
T.D. 3,152 ft.; prep. to set screen.
Union Sulphur Co.'s No. 799 fee.
T.D. 2,996 ft.; comp. 550 bbls. day ⅝-in. choke.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 800 ft. S of No. 11, in line with Nos. 9 and 10, Sec. 12-13-3w.
T.D. 7,439 ft.; prep. to start up.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 9 Gardner, 672 ft. E and 159 ft. N from SW cor. of SW SE Sec. 23-10s-12w.
Drlg. sand and shale 3,326 ft.
Gulf Ref. Co.'s No. 72 G. N. G., 643 ft. E, 50 ft. S, NW cor. NE SE Sec. 33-10s-12w.
T.D. 3,170 ft. sand; W.O.C.
Tri-Oil Co.'s No. 1 Matilda Gray, 38 ft. W, 35 ft. N of SE cor. NE SW NE Sec. 33-9s-12w.
T.D. 3,535 ft.; prep to deepen.
Vinton Pet. Co.'s No. 2 Mathilda Gray, 100 ft. N of No. 1 and in Sec. 33-10s-12w. (W.O.); sidetracking 3,220 ft.
Wilson Broach's No. 5 Wilson.
T.D. 3,277 ft.; W.O.C.
Wilson Broach Co.'s No. 11 Wilson Strip (workover).
Sand 3,557 ft.; comp. 5 bbls. oil and 25 bbls. S.W. daily on pump.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 9 Wilburn.
Drlg. soft sand 500 ft.

MISCELLANEOUS WILDCATS
TEXAS
ANGELINA COUNTY

Thayer et al's No. 1 Dearmond, J. T. Peavy

Sur., 2½ miles SE of Zavalla.
Hard lime 1,915 ft.; T.D.; F.A.

AUSTIN COUNTY

I.T.I.O. and Johnson Bros.' No. 1 August Wrangler, 450 ft. out of N cor. of Wrangler 132-ac. tract in Adam Kuykendall Sur. Location.

BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Houston Farm Dev. Co., 1,414 ft. N, 316 ft. W of SE cor. of L. Bachelder Sur.
Drlg. 3,890 ft.

C. & R. Dev. Co.'s No. 1 National Life Co., 340 ft. from W line and 340 ft. from N line of 100-ac. tract out of west end Nos. 3 and 4 in Henry Austin League No. 4, Abst. No. 12.
Rigged up; S.D.

Jack Clark tr.'s No. 1 J. M. Spear, 150 ft. from N line and 150 ft. from W line of Lot 4, in Pinckney Sur.
Drlg. shale and lime 3,525 ft.

Danciger O. & R. Co.'s No. 4-A Hunt, skidded 200 ft. SW of No. 3-A in W. C. Carson Sur.
Rig up.

Danciger Oil & Ref. Co.'s No. 1 Stark-Brown 330 ft. out of most easterly NE cor. of lease in Perry & Austin Sur.
Drlg. sandy shale 5,964 ft.

Gillock Pet. Co.'s No. 1 Frank Truksa, 200 ft. from S and 1,000 ft. from E lines of 75-ac. tract, Sec. 7, H.T.&B.R.R. Sur.
Rig up.

Holt et al's No. 1 Griffith, J. B. Bailey Sur.
T.D. 4,250 ft.; waiting orders.

BRAZOS COUNTY

M. S. Broach's No. 1 Buck Wallace, 1,000 ft. from S line, 400 ft. from W line of 251-ac. tract in G. W. Singleton Sur.
Trying to pull 7-in. csg. 810 ft.

H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isaack Curll Sur.
Cmtd. surface csg. 30 ft.; abnd.

F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line.
T.D. 2,500 ft.; S.D.

D. W. Young, Jr.'s (H. L. Bleam) No. 1 Harrison, 300 ft. from S and W lines of lease in J. D. Allcorne Sur.
T.D. 150 ft.; abnd.

BURLESON COUNTY

Southern Seaboard Co.'s No. 1 J. H. Coulter, 9,400 ft. from SW line and 2,200 ft. from NW line of 1,176-ac. tract in SE cor. of county in A. Kennon Sur.
Moving in rig.

CALHOUN COUNTY

Continental Oil Co.'s No. 1 American Nat. Realty Co., C of NE of Sec. 6, Blk. C.
Drlg. hard sand 5,758 ft.

Herman Heep's No. 3 Welder.
Location.

Herman Heep Oil Co.'s No. 1-B F. Welder.
T.D. 6,210 ft.; abnd.

J. H. Meek et al's No. 1 R. Adamans, C of NW line of Sec. 45, 2½ miles NE of McCamey.
Spud.

CHAMBERS COUNTY

John H. Carreker's No. 1 B. Weaver, 404 ft. out of SE cor. of lease in A. Weaver Sur.
T.D. 2,550 ft.; temp. abnd.

Turnbull & Irwin's No. 1 Sudindorf, center of W line of 483-ac. tract, H.&T.C. Sur. No. 67, due E of Analuac.
Drlg. 2,100 ft.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Nelson, 3,200 ft. SE of NW cor. of Sec., 2,200 ft. SW at right angles in I.&G.N. Sur.
T.D. 4,052 ft.; R.U. and S.D.

Quintana Pet. Co.'s No. 1 M. A. Olmstead, 457 ft. N 66 deg. 20 ft. E along S line from SW cor. of 129-ac. tract and 425 ft. NW at right angles in M. Baton Sur.
T.D. 1,016 ft.; set surface csg.

Union Central Oil Co.'s No. 1 Mann, 620 ft. from W line and 330 ft. from N line of 20-ac. tract in J. L. Dugat Sur.
Location abandoned.

FAYETTE COUNTY

Colorado Oil Co.'s No. 1 Anders.
T.D. 2,820 ft.; S.D.

FORT BEND COUNTY

Gem Oil Co.'s No. 1 Farmer, 330 ft. out of NE cor. of Robt. Hodges Sur., on 200-ac. tract.
Drlg. 4,285 ft.

Mills Bennet.'s No. 1 Luschner, 3,730 ft. from N line of survey and 550 ft. from W line of lease in T. Habermachner Sur.
T.D. 4,492 ft.; P.B. 3,950 ft.; tested S.W. and little oil.

Joe Moffat's No. 1 Blakly, 100 ft. from N and W lines of Lot 4, Blk. C.
T.D. 517 ft.; S.D.

J. E. Selber's No. 1 J. B. Farmer, 150 ft. out of most southerly cor. of 50-ac. tract in Jas. Scott Sur.
T.D. 4,425 ft.; D.S. test 4,400-25 ft.; 26 fourbles oil, 10 min., ¼-in. choke.

W. A. Shafer et al's No. 1 V. B. Bortash, 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur.
Rigging up.

Vico Oil Co.'s No. 1 H. R. Darst, 5,690 ft. N of S line and 685 ft. W of E line of E. Powell Sur.
Derrick.

Wilks et al's No. 1 Norris, 300 ft. W and 1,352 ft. S of N cor. of 525-ac. tract (5 miles S of Needville).
Rigged up and S.D.

GALVESTON COUNTY

George K. Spoor's No. 1 Maco Stewart, 1,626 ft. N of SE cor. of Alex Farmer Sur., and 1,175 ft. E in W. K. Wilson Sur. (4 miles S of Dickinson).
T.D. 6,577 ft.; reinforcing derrick; S.D.

Humble O. & R. Co.'s No. 1 Maco Stewart, C of E and W lines of 400-ac. tract in John Sellars Sur., S. of Dickinson Bayou 3 miles N of Spoor well.
Drlg. shale 6,220 ft.

GRIMES COUNTY

Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
Laying water line.

W. D. Roan et al's No. 1 D. C. Kelly, 1,532 ft. from N line and 168 ft. from E line of U. Sanders Sur., near Carlos.
Rigged up and S.D.

J. H. Woodward et al's No. 1 O. A. Hamilton, center of Hamilton 95.5-ac. tract S of Richards in the O. Hill Sur.
Drlg. gumbo 860 ft.

HARDIN COUNTY

Wilcox O. & G. Co.'s No. 1 Sternberger, 1,328 ft. N of S line and 1,311 ft. W of E line of C. Dorsey Sur. No. 1.
Coring 5,310 ft; show gas 5,010 ft.

HARRIS COUNTY

Emerald Pet. Co.'s No. 1 Griffith.
T.D. 4,600 ft.; W.O.C.

C. C. Foster and others' No. 1 H. K. Johnson, 2,000 ft. from S line and center of E and W lines of G.C.&S.F. Sur.
Spud and drlg. water well.

General Crude Oil Co.'s No. 1 Rorick est., 5,606 ft. S of N line of survey and 1,546 ft. W of E line of 1,426-ac. tract in John C. Ogburn Sur.
Drlg. 3,228 ft.

H. H. Givans' No. 1 F. B. Bender, 2,640 ft. from S line and 4,860 ft. from E line of Geo. Fisher Sur.
S.D. at 335 ft.

Imperator Oil Co.'s No. 1 Brooks est., 7,400 ft. S and W of NE cor. of R. & R. Vince Sur.
Rigging up and S.D.

Loring Oil Co.'s No. 1 Westmoreland, Lot 3, Blk. 38, Westmoreland Add.
T.D. 6,031 ft.; abnd.

W. U. Paul's No. 1 E. M. House, 2,200 ft. N and 1,000 ft. E of NE cor. of E. Benson Sur. in M. Magruder Sur.
Set 10-in. at 1,000 ft.; S.D.

Southland Oil Co.'s No. 1 Galvey, SE cor. Sec. 4, Blk. 1, E.&T.C. Sur.
T.D. 1,261 ft.; W.O.C.

Texas-New York Dev. Co.'s No. 1 Ralson, 525 ft. from W line and 325 ft. from S line of Lot No. 12 in J. W. Moody Sur.
Spud.

JACKSON COUNTY

Encio Gas Co.'s No. 1 J. H. Drummond, 330 ft. out of most easterly NE cor. of Drummond 499-ac. tract.
Drlg. 4,730 ft.

Encio Gas Co.'s No. 1 Seidel & Simmons, 150 ft. from SW line or 300 ft. NE at right angles from No. 1 Toney, in Raymond Musquiz Sur.
T.D. 5,581 ft.; tested S.W.; P.B. to 5,250 ft.; coring 5,520 ft.

Imperator Oil Co.'s No. 1 Dutton, S center of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Muskins Sur.
Rigged up and S.D.

Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50 acres of Miller 100-ac. tract in Ray Musquiz Sur.
Location.

JEFFERSON COUNTY

Gulf Prod. Co.'s No. 3 I. W. Junker, 700 ft. W, 350 ft. S of NE cor. of 260-ac. tract in W. H. Smith League.
Drlg. sand 3,952 ft.

Magnolia Pet. Co.'s No. 1 E. Herbert Trust, 990 ft. N, 330 ft. E of SW cor. of P. H. Bell Sur. No. 2.
Moving in.

Sun Oil Co.'s No. 1 H. Long, 1,500 ft. N line, 990 ft. E line of lease.
Drlg. shale 7,491 ft.

Turnbull & Irwin's No. 1 Tolivar, 1,900 ft. from N line and 1,400 ft. from W line of NW cor. of Shadric Morris Sur.
Rig up.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No. 4.
Location.

Extension Oil Co.'s No. 1 J. A. Lovett, 200 ft. from E and 600 ft. from S line of lease, P. P. Devers Sur.
Drlg. gumbo 2,811 ft.

Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 3,550 varas from E line and 500 varas from N line of Samuel Strong Sur.
Drlg. shale 2,001 ft.

Magnolia Pet. Co.'s No. 1 Maco Stewart, 2,600 ft. E and 1,370 ft. S of NW cor. of 350-ac. tract in A. Cherry Sur.
Location.

A. L. Maxwell's No. 1 M. D. Hinchliff, 300 ft. from E line and 1,000 ft. from N line of H.&T.C. Sur. No. 150.
Location.

Thomas et al's No. 1-A Eicke, 660 ft. from W line and 2,350 ft. from S line of tract in Green Sur.
T.D. 5,058 ft.; D.S. test 5,025 ft., ¼-in. choke, 5 min., 3 thribbles mud; S.D. orders.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Robbins.
Drlg. hard sand 5,180 ft.

Dr. Griffith's No. 1 fee, 3,000 ft. from N line and 3,000 ft. from W line of Wm. E. Bell Sur.
Rigged up and drlg. water well.

United North & South Dev. Co.'s No. 1 Unit 4, Buckeye farm, J. C. Keller league, 214 ft. N line and 202 ft. E line of lease.
T.D. 7,880 ft.; bailed little oil and no S.W.

United North & South Dev. Co.'s No. 1 Unit No. 58, 250 ft. N and 200 ft. W of SE cor. of Unit No. 58.
Rigging up.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. Whipstocked and drilled to 4,750 ft.; D.S. test in 10 min.; built up 50 lbs. pressure and showed 1 joint oil and mud and 30 thribbles S.W.; S.D. for orders 4,948 ft.

Brown & Wheeler et al's No. 1 Jones, 440 ft. out of NW cor. of S 175 acres of 350-ac. tract.
Location.

Humble O. & R. Co.'s No. 1 Anna M. Platte, 466 ft. S and 1,100 ft. W of NE cor. of 100-ac. tract in Wm. Barker Sur.
Drlg. 3,640 ft.

Sayre Oil Co.'s No. 1 Delta Land & Lbr. Co., 330 ft. out of NE cor. of J. Truitt Sur.
Spud.

Shell Pet. Corp.'s No. 1 Crighton, 1,480 ft. W and 290 ft. S of NE cor. of lease in Mary Corner Sur.
Rig up.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 200 ft. from E line and 150 ft. from NE line of Godwin 20-ac. tract.
Drlg. shale 2,350 ft.

Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 68, 10,-500 ft. E at R/A.
T.D. 5,055 ft.; S.D.

POLK COUNTY

Howard Dailey et al's No. 1 Z. B. Knox, 1,450 ft. W and 1,320 ft. S of NE cor. of F. Chairs Sur., 1½ mile NE of Corrigan.
Spud and S.D.

REFUGIO COUNTY

Cox et al's No. 1 F. W. Bissett, J. Crockett Sur.
T.D. 5,775 ft.; no report.

Heard-Holland Oil Co.'s No. 1 Peck, 366 ft. N and W out of NW and SW of Bonnie View Subd.
T.D. 5,351 ft.; D.S. test 5,330-37 ft., 11 mins., 400 lbs. pressure, ¼-in. choke top and 5/16-in choke on bottom; D.S. test 5,337-51 ft. showed 220 lbs. pressure 11 mins., and 100 ft. mud cut with gasoline and some fresh wtr.; prep. to set 7⅝-in. csg. at 5,320 ft.

G. Jeffries' No. 1 James F. Power, 750 ft. from N and 1,812 ft. from E lines of 500-ac. lease in J.J. Garza and J. Vidaurri Sur.
T.D. 4,523 ft.; washing.

Nesral-Baymore's No. 2 E. Heard, Ximines Sur.
T.D. 6,100 ft.; abnd.

Quintana Oil Co.'s No. 1-B O'Connor, B.B.&B. Sur.
Spud.

Quintana Oil Co.'s No. 2-A O'Connor, 450 ft. N and 450 ft. W of No. 1.
Rig up.

SAN AUGUSTINE COUNTY

Fidelity Exploration Co.'s No. 1 Bryan & Flourney, 1,926 ft. from N and 726 ft. from E lines of Sec. 14, S.P.R.R. Sur.
T.D. 2,005 ft.; S.D.; moving in heavy rig to drill to Woodbine.

SAN JACINTO COUNTY

Darby Jones' No. 1 McBee.
Drlg. shale 3,010 ft.

TRINITY COUNTY

Tom Smith et al's No. 1 Oliver Moody, 1,252 ft. from S line, 500 ft. from E line of 50-ac. tract in E. Roberts Sur.
T.D. 3,209 ft.; abnd.

TYLER COUNTY

Boone-Wallace & Lane's No. 1 Cruse.
Drlg. 1,950 ft.

VICTORIA COUNTY

American Liberty Oil Co.'s No. 1 Gaugler, SE cor. of Gaugler 268-ac. tract and just N of Petrol Corp.'s No. 1 Machalec.
Location.
American Liberty Oil Co.'s No. 1 Prybil, 330 ft. out of SE cor. of Prybil 122-ac. tr.
Rig up.

John F. Camp's No. 1 Zimmer, 330 ft. from SE and NE lines of SW of 58.5-ac. tract of Zimmer 117-ac. lease in R. Manchola Sur.
Drlg. shale 2,010 ft.

Feltex et al's No. 1 Herman Dietzel, 180 ft. from NW line and 330 ft. from SW line of 80-ac. tract in Manchola Sur.
Drlg. 1,300 ft.

Gulf Prod. Co.'s No. 6 Keeran, begin at intersection of R.R. and SW line of survey, thence NE along R.R. 6,257 ft., thence NW at r/a 2,539 ft. in the M. DeLeon Sur.
Drlg. shale 4,720 ft.

Humble O. & R. Co.'s No. 1 McFadden est., 2,000 ft. S. 15 deg. W of Lion O. & R. Co.'s No. 1 McFadden in C. O. Edwards Sur.
Drlg. sand 3,909 ft.

Humble O. & R. Co.'s No. 2 Mitchell, 6,500 ft. NW line, 7,000 ft. from SW line of Mitchell 5,000-ac. tract.
Set surface csg.

Nutex Oil Co.'s No. 1 Zimmer, 330 ft. out of SW cor. of E½ of John Zimmer 120-ac. tract.
Coring 2,100 ft.

Quintana Oil Co.'s No. 1 McCormic, 500 ft. SW line, 500 ft. NW line of survey in most westerly NW cor. S.A.&M.G. Sur. No. 3.
T.D. 6,150 ft.; shut in.

Texas Co.'s No. 2 McFaddin, 9,150 ft. S and 200 ft. E at right angles out of NW cor. of C. M. B. Hoyt Sur.
Drlg. shale and lime 4,076 ft.

WHARTON COUNTY

Pure Oil Co.'s No. 2 Chas. T. Kountze, 2,310 ft. at R/A from NW line and 990 ft. at R/A from SW line of 320-ac. tract in Morris & Cummings Sur., No. 19.
Drlg. sandy shale 4,516 ft.

Pure Oil Co.'s No. 2 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres.
T.D. 8,236 ft.; fshg.

Pure Oil Co.'s No. 1 J. S. Stidhan, 433 ft. SW and 1,320 ft. SE of N cor. of Stidhan 160-ac. tract in Morris & Cummings Sur. No. 23.
Drlg. 73 ft.

Texas Gulf Prod. Co.'s No. 1 Kresta, 440 ft. N and E from SW cor. of tract in Sec. 54, W. B. Ivey Sur.
Location.

SOUTH LOUISIANA

ACADIA PARISH

Edwards Drlg. Co.'s No. 1 Daigle, NE cor. of SE of Sec. 24-7s-1e.
Coring lime and shale 6,900 ft.

Rhodes Drlg. Co.'s No. 1 Lattrell.
S.D. 2,280 ft.

AVOYELLES PARISH

Hass & Stokes' No. 1 Hass, from NE cor. SE Sec. 28 go along E line of Sec. 28 2,486 ft. to point on highway; thence 84 deg. E on highway for 336 ft., thence N 87 deg. E for 4,426 ft., then N 45 deg. E 226 ft.
Rigging up and S.D.

BEAUREGARD PARISH

Federal Pet. Co.'s No. 1 Lutcher-Moore, 467 ft. S and 467 ft. E of the NW cor. of Sec. 4-6-12.
Drlg. 3,220 ft.

Federal Pet. Co.'s No. 1-B Lutcher-Moore, 6 miles NW of No. 1 Lutcher-Moore and near Fields.
Drlg. 2,000 ft.

F. W. Martin's No. 1 J. E. Cochran, SE cor. of NE of Sec. 34-4s-12w (W part of county and 6 miles S of Merryville).
T.D. 6,526 ft.; abnd.

CALCASIEU PARISH

Fred Oil Co.'s No. 1 Faisst, 566 ft. N, 300 ft. W of SE cor. of NW of SE Sec. 26-8s-10w.
T.D. 3,005 ft.; S.D.

Steinberger Pet. Co.'s No. 1 Drew, 330 ft. out of NW cor. of NE¼ of Sec. 26-10s-11w, 6½ miles SW of Sulphur.
Location.

Union Sulphur Co.'s No. 2 Barbe, 279 ft. S and 350 ft. W of NE cor. of SE of Sec. 11-9s-3w.
Drlg. sticky shale 6,850 ft.

CAMERON PARISH

Southern Sulphur Oil Corp.'s No. 1 Gulf of Mexico, near the mouth of the Calcasieu River.
Drlg. gumbo 3,230 ft.; no report.

IBERIA PARISH

Diamond Corp.'s No. 1 Edmond Victor, 1,900 ft. E and 450 ft. from SW cor. of Sec. 41-12s-5e.
Derrick.

Y. D. Spell's No. 1 Sabiater, 25 ft. NW of No. 1 A. B. Bernard, Sec. 4-12s-7e.
Drlg. 250 ft.

IBERVILLE PARISH

Gross Pet.'s No. 1 Angelloz.
T.D. 2,270 ft.; W.O.C.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Devilbiss, 1,389 ft. W, 466 ft. S of NE cor. Sec. 14-9s-4w.
Drlg. shale 6,199 ft.

Humble O. & R. Co.'s No. 1 Martin Kratzer, 400 ft. out of SE cor. 120-ac. tract, Sec. 14-9s-4w.
Drlg. 1,785 ft.

Shell Pet. Corp.'s No. 1 Jernigan, 330 ft. E, 660 ft. S. NW cor. Sec. 12-9s-4w.
Drlg. sandy shale 6,826 ft.

Tide Water Oil Co.'s No. 1 Mrs. A. Bourgeois, 250 ft. E and 205 ft. S of C of Sec. 28-9s-5w.
Coring 5,949 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 2 Harang Plantation.
T.D. 7,216 ft.; S.D.

R. L. Gay, trustee's No. 1 Godchaux, 3,920 ft. N and 1,746 ft. E in common cor. of Lots 34 and 26, Twp. 16s-19e.
Drlg. shale 5,028 ft.

Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 800 ft. E of NW cor. of Lot 7, thence 250 ft. S of Sec. 26-21s-22e.
Spudded and S.D.

PLAQUEMINES PARISH

Southern Sulphur Co.'s No. 1 Bay Adams, 2,325 ft. W and 326 ft. S of NE cor. of Sec. 23-20s-28e.
T.D. 725 ft.; S.D.

Venice Corp.'s No. 1 Burras.
Coring shale 1,058 ft.; no report.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 826 ft. N, 2,193 ft. W of SE cor. Sec. 135-14s-14e.
Location.

Joe Danciger's No. 1 Delacroix Land Fur. Co., 2,442 ft. W and 660 ft. N of SE cor. of Sec. 127-14s-14e.
Rigging up.

Southern Sulphur Oil Co.'s No. 1 State-Lake Borgue, 850 ft. N and 230 ft. E of SE cor. of Sec. 33-12s-15e.
Drlg. sand and shale 2,722 ft.; (no report).

Southern Sulphur Corp.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e.
Shale 2,751 ft.; no report.

ST. LANDRY PARISH

Bailey Gaunce's No. 1 Lewis, 300 ft. N and E of SW cor. of NW of NE of Sec. 29-5s-6e (workover).
T.D. 5,017 ft.; S.D.

ST. MARTIN PARISH

Texas Co.'s No. 6 St. Martin Land Co., 660 ft. S and 500 ft. W of NE cor. SE Sec. 17-8s-7.
Drlg. shale 7,521 ft.

ST. MARYS PARISH

Black et al and Edwards Drlg. Co.'s No. 1 Chetimancha, Sec. 34-13s-9e, 219-ac. tract approximately 500 ft. at right angles SE and SW lines of tract.
T.D. 6,501 ft.; S.D.

TERREBONNE PARISH

Texas Co.'s No. 1-B State-Bay Junop, 2,300 ft. N., 950 ft. E of SW cor. Sec. 27-21s-14e.
T.D. 7,375 ft.; prep. to abd.

Texas Co.'s No. 2 School Board, 2,630 ft. S and 1,284 ft. E of NW cor. of Sec. 16-22s-18w.
Rigging up.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 250 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 32-11s-3e.
Drlg. 400 ft.

VERNON PARISH

Anderson & Kerr Drlg. Co.'s No. 1 Nona Mills, 330 ft. S and W of NE cor. of Sec. 25-2n-9w.
T.D. 4,004 ft.; S.D.

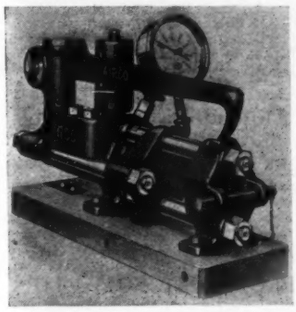
Robt. K. Williams Jr.'s No. 1 Llano Del Rio, 1,185 ft. S, 1,000 ft. W of NE cor. Sec. 7-1n-9w.
Rigged up and S.D.

NEW AND IMPROVED EQUIPMENT

Portable Testing Machine Offered for Welding Work

The growing demand for accurate knowledge of weld strength is the natural result of great developments in welding. In fabrication and in pipe line work, engineers now consider it essential to know the actual strength of welds as they are made. Also knowledge that the welds are as strong as the plate being welded is frequently desired.

The delay and complexity of shipping weld specimens to testing laboratories have brought about a strong demand for



a testing machine for use right on the job. The Air Reduction Sales Co. has developed the Airco portable tensile and bend testing machine, which can be carried to the welding job so that welded specimens can be tested on the spot, rapidly and easily.

The machine consists essentially of an oil pump, a hydraulically actuated piston or ram, two heads, one fixed and one movable, for gripping the test specimens, and four symmetrically located steel shafts, two of which transmit the piston motion and load to the movable head. The other two shafts maintain the alignment of the two heads and prevent the introduction of bending stresses in the tensile test specimen.

By means of a long lever attached to the pump, and the ratio between the areas of pump plunger and hydraulic ram, the downward force on the pump lever is magnified 400 times in the load applied to the test specimen. This magnification of the force applied to the pump lever, together with the large piston displacement of the oil pump, makes it possible to test specimens rapidly and with a minimum of effort.

The load on the test specimen is indicated on a 6-inch pressure gauge carefully calibrated against a standard deadweight tester. The gauge is designed to maintain its accuracy under the strains of usage and shipping.

NEW CAMPBELL WORKS MILL

The Youngstown Sheet & Tube Co. will install at its Campbell works a wide, continuous hot strip mill of the kind and quality conforming to the latest practice in the design and manufacture of modern rolling mill machinery, it is announced by Frank Purnell, president of the company. The equipment will consist of two slab reheating furnaces, one 96-inch 4-high spreading mill and nine stands of 79-inch 4-high mills, all set up in tandem, complete with hot coilers, run-out tables, hot leveling and shearing equipment, piling rack and other necessary equipment. The mill will be capable of producing one-half inch to five-sixty-fourths inch thick material up to 74 inches wide; 16 gauge to 60 inches wide, and 18 gauge to 48 inches wide, in various specifications of flat rolled material. Under normal trade demand the monthly capacity will be from 40,000 to 60,000 net tons.

Notes About Trade Literature

"A Better Portable Compressor" is the title of a new bulletin (No. 2100) of original design and makeup issued by Ingersoll-Rand Co., 11 Broadway, New York, setting forth the advantages of the company's two-stage air-cooled portable compressor.

—

Users of belting will want as a handbook the 226-page volume published by the American Leather Belting Association, 41 Park Row, New York, "Fifty Reports on Mechanical Power Transmission From Motor Drive to Industry." The book was prepared by Robert W. Drake.

—

Boston Gear Works, Inc., 955 West Washington Boulevard, Chicago, has ready for distribution a 240-page catalog of power transmission products, including gears, speed-reducers, chain drives, ball bearings, etc.

—

Worthington centrifugal pumps, single-stage volume, type R, are described in a bulletin obtainable from the Worthington Pump & Machinery Corp., Harrison, N. J.

—

The American Heating & Lighting Co., Morenci, Mich., mails on request a catalog featuring the Clark gas producer, which is said to manufacture an economical gas, free from smoke or odor and requiring no generating or preheating of burners.

—

The current number of "Powertrax," published by the International Harvester Organization, 606 South Michigan Avenue, Chicago, contains among its articles one of special interest on the new Iraq pipe line.

—

The Hauck Manufacturing Co., 126 Tenth Street, Brooklyn, N. Y., will send to those who ask for it a bulletin on Hauck Micro regulating valves, which are said to assure minute regulation of oil to the burners.

—

The story of the Fairbanks-Morse organization, which founded its scale business in 1830, is told in an interesting illustrated booklet of 28 pages issued as the summer number of the F.M News.

—

Bulletin No. 842, published by the Leeds & Northrup Co., 4901 Stenton Avenue, Philadelphia, Pa., is entitled "L&N Automatic Furnace Control."

Muskogee Iron Works Puts Improved Derrick in Field

The Muskogee Iron Works, Muskogee, Okla., which for 11 years has been manufacturing derricks, has entered the field with a new and improved derrick made in its own plant and sold under its own name.

Interesting features are incorporated in the M.I.W. derrick. Erection is facilitated by having fewer parts and therefore fewer bolts. Among other improvements are two-bolt connections throughout so that there is always a hole for a pin to bring the member in contact while a bolt is being inserted. The M.I.W. derrick can be erected in a day's time, according to the manufacturers. One company, which has bought several hundred, is said to have found that the crew going to work at 8 o'clock usually has the derrick up by 3 o'clock in the afternoon.

Other construction features include milled joints, silicon steel legs, gin poles specially locked in place, a specially designed ladder connection which is not dependent on the bolt staying in place, thereby making the ladder safe at all times.

The Muskogee Iron Works carries in stock around 3,000 tons of derrick material. Derricks in standard sizes are shipped the day orders are received. Special derricks can be ready for shipment quickly. The company's facilities include a structural shop, galvanizing plant, machine shop and foundry. The company maintains a large and experienced engineering department.

The company is well known in the oil industry as a builder of skid winches, pipe laying booms, hoists, power take-offs and a complete line of structural steel buildings for refineries, gasoline plants, etc. It is internationally known, having shipped and erected materials in many parts of the world. Some of the equipment used in laying the Iraq pipe line was furnished by the Muskogee Iron Works. Branch sales offices are at 1115 First National Bank Bldg., Dallas, Tex.

Pyrometer Controller Has Degree-Splitting Qualities

The new Bristol pyrometer controller Model 478, announced by the Bristol Co., Waterbury, Conn., is said to possess "degree-splitting" characteristics that permit an unflinching check over any heating process. Precision "shear-edge" action of the working mechanism raises prod-

uct quality to new standards of uniformity.

Model 478 has several outstanding features: (a) Clean, nonarcing, nonoxidizing, noncorroding mercury-to-mercury electric contacts, sealed in glass (b) no need for relays; (c) operating mechanism always visible; (d) accessibility of telechron motor, mercury switches and terminal block, simplifying field inspection without exposing control mechanism to dirt, fumes, or mislaignment; (d) full safety features; (e) accurate control; (f) simple and rugged working parts.

Men Well Known in the Equipment Field

EDWARD L. STOUGHTON

Edward L. Stoughton, vice president and general manager of the Wico Electric Co., Springfield, Mass., has been made president to succeed the late Phelps Brown.

Mr. Stoughton joined the concern as a shipping clerk in 1911. The next year he was promoted to stockkeeper. In 1913 Mr. Stoughton was named purchasing agent and in 1915 he was promoted to assistant treasurer. As the concern increased its business more offices were created and in 1917 Mr. Stoughton was made treasurer and general sales manager.

In the succeeding years Mr. Stoughton acted in the capacity of assistant to Mr. Brown as vice president and on March 1 of this year he was named general manager of the entire plant at the same time holding the title of vice president. He is president of the Western Massachusetts division of the National Metal Trades Association and a director of the Employers Association.

HOUGH HAS TULSA WAREHOUSE

The Charles N. Hough Manufacturing Co., Franklin, Pa., maker of oil well specialties and pumping equipment, will open a warehouse at Cameron Street and North Boston Avenue, Tulsa, August 1, and will carry a complete stock of its products for distribution in the Mid-Continent and Gulf Coast territories. L. L. Reib, factory representative, will be moved from Franklin to take charge of the warehouse. The company's sales personnel in the region covered will remain the same: C. O. Shumaker, 1143 South Xanthus Street, Tulsa; C. S. Vogel, 2001 Hemphill Street, Fort Worth, Tex., and Frank L. Scott, 502 Selman Street, Tyler, Tex.

Anyone concerned with the hiring of welders will be interested in the recent publication by the Linde Air Products Co., 30 East Forty-second Street, New York, of a 24-page illustrated booklet entitled "The Testing and Qualification of Welders." It outlines simple tests for measuring the ability of welders, the first of the six essential steps in every procedure control for oxy-acetylene welding.

Canadian Fields

(Continued from Page 136)

more than one test. Reven Oils' No. 1, LSD 1, Section 20-9-2w5, did some drilling this spring but is shut down.

Test for Highwood-Sinclair

On the Highwood-Sinclair structure, lying about midway between Highwood-Sarcee Oils' No. 1 in South Turner Valley and the Pekisko Hills test, Banner Oils' No. 1, is reported drilling around 600 feet after a shutdown of several years. Test is being financed by Canadian Royalties, Ltd., with Clarence Snyder in charge. Small gas seepages occur on the Banner acreage, and a large seepage on Bull Creek about 2 miles further south.

Turner Valley Extension

In the light of gas production secured in the Pekisko Hills Co.'s No. 1, in LSD 6, Section 6-17-2w5, Turner Valley operators are discussing the possibility of a continuous field that far south. Since the Dingman well was drilled in 1914, and more particularly since Royalite's No. 4 got its first naphtha production in the Madison limestone, the field has been steadily extended working approximately 3 miles to the north and 10 miles south. The northern extension has been delimited, but so far the extension to the south, or southeast, has been uninterrupted. In the south end of Section 28-18-2w5, the top formation is the Belly River, overlying the Benton shale which outcrops throughout the greater part of the field; but though this extra formation may mean additional drilling, Highwood-Sarcee's No. 1, still further south, has succeeded in getting production in the Madison. So far, the gas production and naphtha recovery have improved toward the south, while crude oil instead of naphtha has been met in a few deep lime wells on the west fringe of the structure. These two features lend support to the theory that the wet gas and naphtha are derived from a crude oil reservoir to the south and west. Some miles further south Pekisko Hills' No. 1 got the lime at a point much higher than anywhere in Turner Valley, and Banner's No. 1, about half way between the Highwood-Sarcee and Pekisko wells, appears also to be higher. This would indicate that the structure, if continuous, dips toward the south and then rises again.

Comrey Structure

On the Comrey structure, southeast of Medicine Hat, Comrey Oil Co.'s No. 1, Section 9-1-5w4, has derrick up on acreage of Imperial Oil, Ltd. The acreage was reported by Dr. T. A. Link, of the Imperial geological staff. Indications are the Ellis sands, main producing horizon of the Kevin-Sunburst Field, are between 200 and 300 feet thick.

British Columbia

In the Sage Creek area, southeastern British Columbia, work has been resumed on Columbia Oils' No. 1. It spudded more than a year ago and at last reports was down approximately 1,700 feet, having got shows of oil at 100 feet and 1,125 feet. Work is in charge of George W. Brake, field manager.

Cardston Gas Test

Cardston Gas & Development Co.'s No. 1 has been spotted in LSD 6, Section 5-3-25w4, about 2 miles west of Cardston, in southern Alberta. Cellar has been started and derrick timbers are being hauled. It will be drilled by Franco Oils, Ltd., for the Cardston company, which is interested in securing gas to supply the town, for which it recently obtained a franchise. J. Y. Card and J. S. Smith of Cardston are identified with the Cardston company.

Rialto Dismantling

On the Reserve Dome structure, Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, is dismantling its outfit which will be used for drilling the Comrey Oil Co. test in return for an interest in production. Rialto's No. 1 was drilled last year, after Mayland Southern's No. 1 at a higher point on the structure had got considerable gas production. The Rialto well reported a small oil show at 2,025 feet, got the Ellis sand at 3,075 feet but drilled into sulphur water at 3,080 feet.

Drilling in Ontario

In the Dover Field, Kent County, Ontario, F. H. Stover & Son's No. 1, Jubenville farm, Lot 13, Front Concession, Dover East, is at 1,060 feet and running casing. Extensive leasing has been reported in the D'Clute Field, Raleigh Township, Kent County, following completion of Union Gas Co.'s No. 23 with a gas production estimated more than 3,000,000 feet a day from two sands.

In Moore Township, Lambton County, American Engineering Co.'s No. 2, I. C. Kerr farm, Lot 21, Concession 1, is coring below 810 feet. In Norfolk County, Prairie Oil & Gas Co.'s No. 4 Stilwell and No. 5 Charles Coyle are both coring in the sulphur horizon. When this is completed they will be deepened to the gas sand.

Gulf Coast Fields

(Continued from Page 127)

torsion balance prospect about 8 miles northeast of the town of Refugio and 3 miles southeast of the Greta Field, was reported during the past week making 9 per cent water.

Washington County

At Clay Creek in Washington County, Sun Oil Co.'s No. 3 W. Schermer, in the Clay Survey, has been abandoned as dry with total depth of 4,843 feet. A Schlumberger test was made but showed nothing of importance.

Tyler County

In Tyler County, Boone-Wallace and Lane's No. 1 Cruse was drilling below 1,950 feet. It topped Hockley 1,222 feet, had top of Operculina 1,898 feet and encountered top of Cockfield 1,913 feet actual or 1,763 feet subsea.

Wharton County

Texas Gulf Producing Co. has staked location for No. 1 Kresta, about 3 miles east of Louise in Wharton County and 440 feet north and east out of the southwest corner of the tract in Section 54, W. B. Ivey Survey.

Colorado County

In Colorado County, Quintana's No. 1 M. A. Olmstead, in the M. Baton Survey, was drilling below 1,016 feet after setting surface casing. Gulf Production Co. is reported to have given Quintana half interest in 3,000 acres for the well.

Matagorda County

Sun Oil Co. is reported to have recently taken a geophysical option on over 10,000 acres in the southeast corner of Matagorda County. At present five companies have geophysical crews working the country. Sun is working a reflection crew, Continental a reflection crew, Strake a reflection crew, Texas Co. a two-instrument torsion balance crew and Hamman a reflection crew.

Jackson County

At Vanderbilt in Jackson County, Phillips Petroleum Co.'s No. 1 Siedel & Simmons was coring 5,529 feet. Phillips' No. 1 J. H. Drummond was drilling 4,730 feet.

Calhoun County

In Calhoun County, Herman Heep Oil Co.'s No. 2 F. Welder has been abandoned as dry with total depth of 6,210 feet. Continental Oil Co.'s No. 1 Moody, between Seadrift and O'Connor, was drilling 5,760 feet.

SOUTH LOUISIANA

At Leesville in LaFourche Parish, Texas Co.'s No. 17 L.L.&E., in Section 27-21s-22e, has been abandoned as dry with total depth of 4,825 feet.

In the Gillis area of Calcasieu Parish, Union Sulphur Co.'s No. 2 Barbe Estate, the third test for the block, was drilling sticky shale at 6,850 feet.

During recent months geophysical exploration has showed a marked increase in Southern Louisiana with the majority of the geophysical crews working the Conroe trend. In July, 1933, there were 21 parties working the Louisiana Gulf Coast, compared with 67 geophysical parties working the area at present, 46 of which are torsion balance crews, 18 seismograph reflection crews, one refraction, one pendulum and one magnetometer crew.

RIG BUILDERS ASSOCIATION

The National Rig Building Employers Association of Region 4, covering five states in the Mid-Continent area held a meeting in Tulsa last week to discuss labor problems with members of the employes committee as approved under the code authority. Those named as the Region 4 committee for the employers include P. O. Sills of Midland, Tex.; R. W. Reynolds, Wichita Falls, Tex.; M. L. Bass, Longview, Tex.; M. W. Simmins, Pettus, Tex.; J. Ray McDermott, Houston, Tex.; W. J. Mitchell, Ponca City, Okla.; R. C. Reardon, Tulsa; George Hallmark and Alex Reader, Wichita, Kans.

CLASSIFIED ADVERTISING

Royalties—Production

THE
UNITED STATES GOVERNMENT
under the new Federal Securities Law
now supervises
OIL ROYALTY SALES
by all Dealers and Brokers
Federal Rules and Regulations governing sales procedure have been promulgated effective July 1st, 1934.
Copies have been prepared and will be sent free to dealers and brokers upon request to us.
IT WAS NEVER AS IMPORTANT AS NOW FOR OUTSIDE DEALERS TO HAVE RELIABLE TULSA CONNECTIONS.
W. E. COOK
INCOME ROYALTIES, INC.
Suite 812, Palace Bldg.
Tulsa, Okla.

ROYALTIES CAREFULLY SELECTED
G. D. TERRIEN
Philcade Building. Tulsa, Okla.

PRODUCING OIL ROYALTIES
in Fractional deeds from $100 up.
John L. Dickson, Box 1113, Tulsa, Okla.

PRODUCING OIL ROYALTIES
Bought and Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
DAVID R. MITCHELL & CO.,
Established 1916.
20 BROAD ST. NEW YORK

Income Producing Royalties
Mid-Continent Field
Harry A. George
Exchange Bank Bldg., Tulsa, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood. P. O. Box 2261, Tulsa, Okla.

BROKERS-SALESMAN
The scene of the next big oil boom—The Permian Basin in West Texas and New Mexico—Can supply you with drilling blocks, close in acreage to Major Oil Companies drilling blocks or choice non-producing royalties located on geophysical highs—I have my own field men covering this area. Inquiries invited.
B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

OIL REPORT SERVICE
A monthly service of Oklahoma Prorated Pools, giving Potentials, Pipe Line Runs and Allowables. Price $7.50. Clyde Kelly, 306 Petroleum Bldg., Okla. City, Ok.

ROYALTIES wanted in the Mid-Continent field, in exchange for royalties in Texas and Oklahoma. Acre for acre given, even exchange only. Address Box G-262, The Oil and Gas Journal, Tulsa, Okla.

PRODUCING Royalties in the East Texas Field bought and sold. Frank C. Scarborough, 201 Stuckey Building, Longview, Texas.

PRODUCING ROYALTY—Owner will sell half acres and upwards of monthly income paying royalties at reasonable prices. P. O. Box 35, Tulsa, Okla.

HIGH-CLASS royalty under and offsetting drilling wells, Kansas, Oklahoma and Texas. Also producing royalties. Wire for offerings. J. E. Perkins, P. O. Box 2152, Tulsa, Okla.

25 Years direct contact California Royalty owners qualifies me to render best Brokers' supply service. Choicest California producing royalties in spreads or singly to pay big returns. W. Nelson Shell, 709 W. 6th St., Los Angeles, Calif.

DEED LOTS, all Royalty under community lease, near new oil wells north of Oklahoma City. Price $50 each. G. E. Fisher & Company, 518 Key Building, Oklahoma City, Oklahoma.

Royalties—Production

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma

BROKERS and Salesman wanted who can sell semi-proven leases and royalty. Adjacent to the great East Texas Fields. TEXAS WHOLESALE LEASE CO.
4148 Cole Avenue
Dallas, Texas.

PRODUCING OIL ROYALTIES
for dealers.
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

Oil and Gas Royalties
Kansas-Oklahoma-Texas
L. H. Witwer
217 Cole Bldg., Tulsa, Oklahoma

PRODUCING ROYALTIES
for
DEALERS ONLY
A selection to meet the demands of the most exacting clientele.
CHESTER IMES
First National Bldg.
Oklahoma City, Okla.

Leases—Production

BROKERS—Well located leases and perpetual royalties at wholesale prices, small and large tracts. Write A. C. Smith, P.O. Box 927, Houston, Texas.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

Gray and Wheeler Co., Texas are getting an Oil play. Tell me your needs.
E. B. REEVES (Investments)
Box 13, Alanreed, Gray Co., Texas.

FOR SALE—Oil and gas leases in shallow territory, also settled production and many proven locations to drill. Drilling blocks all sizes.
W. P. HARLEY
Bowling Green, Ky.

EAST TEXAS Woodbine sand wildcat starting. Leases, Royalties, low price, might make 50 for one. E. CROFT, Proctor, Texas.

NEW five year commercial oil and gas lease in the Benjamin White Survey near Bradley well which is fixing to start now. A real good gamble. Price $2.50 per acre. Write or wire C. A. Parker, Center, Tex.

PENNSYLVANIA
2,600 Acre proven Oil Property located in Warren County, Pennsylvania; 2,100 and 500-A Blocks; 300 Producing wells and equipment with repressuring possibilities. C. S. Johnson, Pleasantville, Pa.

FOR SALE—Lease and Royalty in SE¼ 35-15n-3w, and royalty NW¼ 30-14n-2w. D. J. PERRY, Edmond, Okla.

WILDCATS FOR SALE
"The splendid discoveries of new Oil Pools at shallow depths in the Wichita Falls District are causing many Oil Operators to start operations here.
"I have good subsurface geology and several drill blocks carefully selected. Will sell an interest in one or more of them with a well completed thereon or might give full ⅞ths oil lease with finished well on same and keep offset acreage." B. H. HILBURN, 915 Hamilton Building, Wichita Falls, Texas.

CLASSIFIED ADVERTISING

For Sale—Equipment

EXTRA QUALITY 6-INCH LINE PIPE—8,530 ft., the pick of a 12-mile line and practically the same as new. Now ready for delivery from line location near Burkburnett, Texas. Contact Ralph Hague, Phone 4-8580, Tulsa; or Wichita Office, Phone LD-59.

DRILL PIPE CASING — Several strings 6⅝-in. O.D. (6¼-in.) now ready for delivery from Kilgore, Texas, and Wichita, Kansas, yards. All thoroughly shopped in our Wichita factory. New threads, new couplings, long joints. We are especially equipped for the production of Drill Pipe Casing and guarantee that our product will please you in both price and quality.

DIESEL DRILLING ENGINE —90-h.p., 6-cylinder, Fairbanks-Morse with O.C.S. Reversible Clutch, Air Starter, Lighting Plant, Fuel Tank, Etc. Drilled only one well and completely overhauled by us. Very attractive price and guaranteed first class in every respect. Ideal drilling power for any locality where water is scarce. Costs less to buy and operate than steam power. On hand at Wichita, Kansas.

USED DRAW WORKS—8-in., Model "A" Johnson, regular bearing, 3-speed, complete with Chain Guards, and brake compounder. Priced at the exceptionally low price of $1,500 f.o.b. Oklahoma City. This low price does not include any repair work or new parts should they be needed. We believe very little repair work necessary. It will pay interested parties to inspect this Draw Works.

USED TUBING—Several strings 2-in., 11½-thd. Regular, not upset, Lapweld in Pampa yards. This is good grade and priced right.

SURFACE PIPE — KILGORE —10-in., 35-lb., 8thd., and 40-lb., 8-thd., and 12½-in., 50-lb., 8thd., on hand in Kilgore yards.

RENT BRIDGEPORT ROTARY REAMERS—Any size may be used for 75 days or less at a minimum rental cost of from $60 to $150, plus cost of new cutters, the rental charge depending upon size and type of reamer required. For a small extra day charge the tool may be retained for an indefinite period. For complete information contact our nearest store.

GOOD USED SECTIONAL BAILER — 7-in. by 91-ft., 4-section, good condition. Price $110 f.o.b. Houston. All sizes of good used regular bailers— 4¼-in. to 14-in.—Priced at from $11 to $35 each. Stocks at all stores.

LARGE DRILLING BIT—24-in., Wt. 3,000-lbs., 6½-ft. long. Union Tool Make. Price $150 f.o.b. Wichita, Kansas. Also all smaller sizes down to 3½-in. priced as low as 2c per lb. Many of our used bits are as long as new ones, joints in good condition, and collars long. Give us the specifications you want and we can likely furnish just what you want at a big saving in cost.

BOILERS—Several 60-h.p., 150-lb., W.P., Donovan, fire-box dome Boilers in first class condition and suitable for cable tool drilling in Pampa yards. Also large and small boilers suitable for lease work, cable drilling and rotary drilling in various stocks. Ask for prices, specifications, etc.

COMPLETE ROTARIES—Several good used and rebuilt outfits on hand. Get our prices, specifications and terms.

(All items offered subject to prior sale.)

THE BRIDGEPORT MACHINE COMPANY
WICHITA, KANSAS.

For Sale—Equipment

LIQUIDATING LARGE NEW REFINERY

Marathon Oil Co., Boynton, Okla. Cost over $2,000,000.00; operated until Jan. 8th, 1934. Compelled to move off property. Pipe and shell stills, 50-condenser boxes, 200 tanks all sizes, 150 pumps, all kinds, 100 miles pipe lines, 50,000 valves and fittings, boilers, fire brick, Filter Plant for FULLER'S EARTH, 20—55,000 bbl. steel tanks, 2—600 h.p. McIntosh-Seymour Diesel OIL ENGINES, operated 8,000 hours. 2—500 HP Winton Natural Gas Engines, New 1933.

COMPLETE CARBONDALE WAX PLANT

600-bbl. daily capacity, 3 presses, 325 plates each, 2 individual 35-ton ice units, chillers, pumps, engines, etc. All late type. In service 18 months. WILL SELL ALL OR ANY PART. Inventory furnished on request; wire, phone or write, W. C. Berry, Mayo Hotel, Tulsa, Okla.

SONKEN-GALAMBA CORPORATION, Liquidators.
64 North Second Street, Kansas City, Kansas.

FOR SALE
GAS-ENGINE COMPRESSOR, Cooper-Bessemer, four cycle, horizontal, 100 h.p., capacity 245 cu. ft. per min. In first class condition and priced to move quickly. Location, West Virginia. Address Box G-271, The Oil and Gas Journal, Tulsa, Okla.

CASING; DRILLING GATE VALVE; AND McELVAY CASING HEAD FOR SALE: We offer at a bargain — 1,800' of practically new 11¾" O.D.—54-lb. A.P.I. Seamless Casing Class D which cost $3.34 net, will take $1.75; also, brand new Hughes Drilling Gate Valve 8¼"—which cost $408.00, will take $204.00; and McElvay Casing Head with Slips—7" O.D. High Pressure equipment that cost $250.00, will take $125.00. 924 Hamilton Building, Wichita Falls, Texas.

BRAND NEW SAND LINES FOR OIL WELL DRILLING. FOR SALE AT PRICES WAY BELOW MARKET.
32,500 feet of ⅝" dia. 6x7, both hemp and Wire Center. Lengths from 2,000 feet to 4,000 feet each reel.
15,000 ft. of 9/16" dia. 6x7, Hemp Center. Lengths 500 ft. and 1,000 ft.
Priced right for quick sale.
Terrence P. Wynn.
100 West 72 S., N. Y. C., N. Y.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also, large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

FOR SALE OR TRADE — Second-hand pipe, casing and oil field equipment. LEE MORRISON SUPPLY CO., Bartlesville, Okla.

2—250 H.P. Ames Economic self-contained Boilers, ASME 150 lbs., arranged for oil burning, no oil burners included. Used only eight months and priced for immediate sale.
CONSOLIDATED PRODUCTS COMPANY, INC.
17-20 Park Row,
New York City.

FOR SALE
Duplex Belt Drive Oilwell Mud Hog—5⅞x12. $800 F.O.B. Mt. Pleasant, Mich.
THE ATHA SUPPLY COMPANY.

NAT. GAS AND OIL ENGINES
1—200 H.P. Sheffield 4 cyl. gas.
2—500 H.P. Winton 8 cyl. gas.
6—60 H.P. DeLaVergne 1 cyl. Oil.
14—60 H.P. Worthington 2 cyl.
2—600 H.P. McIntosh & Seymour 6 cyl. oil.
A real bargain for quick sale. Write, Phone, or wire W. C. Berry, Mayo Hotel, Tulsa, or
SONKEN-GALAMBA CORP.
64 No. Second St., Kansas City, Kansas.

Star 30 Drilling Mach. and tools, good condition, located Greenwood Co., Kans. Price $1,500 cash. Box 703, Eureka, Kans.

Refined Products

CRUDE TOPS FOR SALE
Crude tops refined at your desired gravity and other Petroleum Products. Write or Wire, Penn-Tex Refining Co., an Independent Refiner, Box 596, Gladewater, Tex.

CAN SUPPLY Crude Tops, Crude, Fuel Oil, etc. Wire or write, Tank Service Company, Longview, Texas.

Classified Rates

Classified Advertising rates are 35 cents a line for the first insertion and 25 cents a line for each additional insertion, PAYABLE IN ADVANCE.

Six words usually constitute a line.

Compute white space at line rate.

Minimum of three lines accepted.

	1 time	2 times	3 times	4 times
3 lines	$1.05	$1.80	$2.55	$3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

To avoid delay be sure to send remittance with copy. Over payments will be refunded. One time insertions will not be run until fully paid.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Display Rates

Classified Display Advertising set in similar style to this Ad or in two-column style is as follows:

1 inch ..... 1 time $5.00
1 inch ..... 13 times 4.50
1 inch ..... 26 times 4.00
1 inch ..... 52 times 3.50

PAYABLE IN ADVANCE
MONTHLY

One-point borders and 10-point capitals are allowed: larger type not accepted.

To avoid delay be sure to send remittance with copy. Over payments will be refunded. One time insertions will not be run until fully paid.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Situations Wanted

ROUTINE laboratory tester and petroleum chemist desires position, several years excellent experience, degree. W. G. Bohannon, Tyler, Texas.

Refinery Engineer: 10 years experience, design, cracking units and lub plants. Desires connection. Will consider sales, engineering. Address Box G-272, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Position by man with 20 years experience as Accountant-Auditor oil and gas industry, all branches; also Utility Management. Relieved from present position in reorganization of Company. Any location. Address J. E. Aitken, Newark, Ohio.

Help Wanted

WANTED
FIELD SUPERINTENDENT
Not over 45 yrs. old. Must be familiar with heavy machinery and all phases of producing in stripper area. Must be a hustler, aggressive, agreeable and able to handle men. Give full detail of experience and references. Address, Stripper Producer, The Oil and Gas Journal. Tulsa, Okla.

WANTED—GEOLOGISTS, SCOUTS, EXECUTIVES
Your earnings greatly increased by learning a new quick method of finding structures. Learn it today, use it tomorrow. Information by writing. GEOLOGIST, 14957 Lakewood Heights Blvd., Lakewood, Ohio.

WANTED: To contact three or four men of ability and industry capable of introducing and selling a patented oil field pumping specialty. Unless experienced and desiring position offering future advancement do not reply. Address P. O. Box 2047, Fort Worth, Texas.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception,"
Insructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Financing

JOHN MORRIS, Seventh Floor, 1237 Market Street, Philadelphia, will help float small deal. No stock selling. Send full facts in first letter.

LOANS on oil production available to owners of Royalty or Working Interests on settled Production. Loans may extend over a period of twelve months repaid monthly from runs. Forward full detailed information to Box G-132, The Oil and Gas Journal, Tulsa, Okla.

JAMES E. MILLER CO., 207½ E. Third St., Tulsa, Okla., will co-operate with responsible parties seeking aid in financing projects of higher order.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Business Opportunities

WANTED—Reliable driller to drill on percentage basis. 20,000 acres of oil and gas leases in Western State. 5 locations in block. Box 337, Abilene, Kansas.

WANTED assistance finance development upwards 100,000,000 daily high pressure gas production and gasoline plant, Rocky Mountain area. Address Box G-280, The Oil and Gas Journal, Tulsa, Okla.

Incorporations

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS—Fees small; submitted forms. Chas. G. Guyer, 901 Market Street, Wilmington, Del.

WORKING
from the bottom up

Examine a Pacific Pump from the bottom up or the top down,—you will find correct design, materials selected for their resistance to wear, and workmanship second to none. As manufacturers of turbine and hot oil pumps, PACIFIC has a reputation to maintain. As manufacturers of oil well plunger pumps, PACIFIC has built a reputation in the last two years which it is anxious to expand and enhance. Everything the PACIFIC does must be right. When we say "accuracy" we mean "accuracy." When we say "full interchangeability of every pump part to A. P. I. standards", we mean just that. PACIFIC PUMPS are operating successfully and lowering lifting costs in both California and the Mid-Continent fields.

"Pacific Precision means a Perfect Pump"

There are four different types of Pacific Pumps available in any A. P. I. size or length. Insert Liner Pumps, Traveling Barrel Insert Liner Pumps, Regular Liner Pumps, and "Oil States" Insert Pumps. Each one is designed and recommended for a specific pumping condition. Write for bulletins.

PACIFIC PUMP WORKS
Huntington Park, California

Mid-Continent Pump Supply Co.
Tulsa, Oklahoma

PACIFIC LINER PUMPS

CONSTANT

research in field and laboratory, the use of superior crude oils, and the most modern refining equipment are the three stones in the foundation upon which Humble quality has been built.

HUMBLE
OIL AND REFINING COMPANY

HOUSTON, TEXAS

Producers, Transporters, Refiners and Marketers of Petroleum and Its Products.

Index to Advertisers

A
Abercrombie, J. S., Co. 125
Air Reduction Sales Co. ....
Allegheny Steel Co. 138
Allis-Chalmers Manufacturing Co. ... 84
Allsteel Products Mfg. Co., The 17
American Askania Corp. ....
American Cable Co....Inside Front Cover
American Meter Co. 18
American Recording Chart Co. ....
American Sheet & Tin Plate Co. ....
American Steel & Wire Co. 15
Auer, C. L., and W. W. ....
Axelson Manufacturing Co. 132

B
Baker Oil Tools, Inc. 20
Baroid Sales Co. 62
Barrett Co., The 2
Barret, William M., Inc. ....
Bethlehem Steel Co. ....
Boston Woven Hose & Rubber Co. .. 33
Bradford Motor Works, Inc. 132
Brewster Co., Inc. ....
Bridgeport Machine Co. 55-151
Broderick & Bascom Rope Co. 11
Brown Instrument Co., The 4
Buck & Stoddard, Inc. ....
Butler Mfg. Co. ....
Byron Jackson Co. ....

C
Cameron Iron Works, Inc. 125
Caterpillar Tractor Co. ....
Champion Machine & Forge Co. ....
Chaplin-Fulton Mfg. Co., The 133
Chapman Valve Mfg. Co., The ....
Chevrolet Motor Co. 8
Chicago Bridge & Iron Works 79
Chiksan Oil Tool Co., Ltd. ....
Cities Service Oil Co. 105
Clark Bros. Co. ....
Classified Advertising 151
Climax Engineering Co. ....
Climax Molybdenum Co. ....
Coffing Hoist Co. 112
Continental Oil Co. ....
Continental Supply Co., The 8-B
Cooper-Bessemer Corp., The 29
Crane Co. 88
Crutcher, Rolfs & Cummings ....
Curtin, W. H., & Co. ....

D
Darling Valve & Mfg. Co. 7
Dart, E. M., Mfg. Co. 132
Davis Regulator Co. ....
Detroit Graphite Co. ....
Devine, J. P., Mfg. Co., Inc. ....
Diamond Metal Co., Inc. ....
Doheny Stone Drill Co. .....Front Cover
Dowell Incorporated ....
Dresser, S. R., Mfg. Co. ....
DuPont DeNemours & Co., Inc., E. I.
Duriron Co., Inc., The ....

E
Eagle-Picher Lead Co. ....
Economy Electric Lantern Co. ....
Edward Valve & Mfg. Co., Inc., The..130
Elliott Core Drilling Co. ....
Emsco Derrick & Equipment Co. 87
Ethyl Gasoline Corp. ....

F
Fairbanks-Morse ....
Falk Corp. 8-B
Filtrol Co. of Calif. 129
Firestone Tire & Rubber Co., The ....
First National Bank & Trust Co. of Tulsa, The ....
Fisher Governor Co. ....
Fluid Packed Pump Co. ....
Fluor Corp., Ltd. ....
Fort Worth National Bank, The 119
Foster Wheeler Corp...Inside Back Cover
Four Wheel Drive Auto Co., The ....
Foxboro Co., The 13
Frick-Reid Supply Corp. ....

G
Gardner-Denver Co. 14
Garlock Packing Co., The ....
Gaso Pump & Burner Mfg. Co. 3
Gasoline Products Co., Inc. 75
Gates Rubber Co. ....
Gearench Mfg. Co. 133
General Electric Co. ....
General Motors Truck Co. ....
Goodyear Tire & Rubber Co., Inc. ....
Gott, H. P., Mfg. Co. 127
Grant Oil Tool Co. 137
Graver Tank & Mfg. Corp. 112
Guiberson Corp., The 12
Gulf Refining Co. ....

H
Halliburton Oil Well Cementing Co... 5
Hanlon-Buchanan, Inc. ....
Happy Belting Co. 33
Harrisburg Pipe & Pipe Bending Co..
Hause Valve Co., The ....
Hazard Wire Rope Co. ....
Hecter, C. M., Sons & Co. 123
Hercules Tool Co. ....
Houston Oil Field Material Co., Inc.
Hughes Tool Co. .....Back Cover
Humble Oil & Refining Co. 152
Hydril Co. .....Front Cover

I
Illinois Steel Co. ....
Ingersoll-Rand Co. ....
International Derrick & Equipment Co., The 98
International Harvester Co. of America 10

J
Jarecki Manufacturing Co. 91
Jenkins Bros. 115
Jerguson Gage & Valve Co. ....
Johns-Manville Corp. ....
Jones & Laughlin Steel Corp. 51
Jones Co., The, S. M. ....

K
Kellogg, M. W., Co., The 37
Kennedy Valve Mfg. Co., The 113

L
Landis Machine Co., Inc. ....
Lane Wells Co., The ....
Layne & Bowler, Inc. ....
Lincoln Electric Co., The ....
Linde Air Products Co., The 76
Link-Belt Co. ....
Louisiana Supply Co. ....
Lucey Products Corp. ....
Ludlow Valve Mfg. Co., The ....
Lufkin Foundry & Machine Co. ....
Lummus Co., The 92
Lunkenheimer Co., The 102

Mc
McCord Radiator & Mfg. Co. 59
McEvoy, J. H., & Co. ....
McIntosh & Seymour Corp. ....

M
MacClatchie Manufacturing Co. ....
Macwhyte Co. ....
Magnolia Petroleum Co. ....
Maloney Tank Mfg. Co. ....
Manhattan Rubber Mfg., Division of Raybestos-Manhattan, Inc. ....
Martin-Decker Corp. ....
Mason-Neilan Regulator Co. ....
Mechanical Rubber Co., The ....
Mepham Corp., Geo. S. 127
Merco Nordstrom Valve Co. 35
Miller Sand Pump Co. 103
Mission Mfg. Co. ....
Moore, Lee C., & Co., Inc. 107
Murray-Brooks Hdwe. Co., Ltd. ....
Muskogee Iron Works 49

N
National Bank of Tulsa 83
National Lead Co. ....
National Supply Co., The ....
National Transit Pump & Machine Co.
National Tube Co. ....
Nicholson & Co., W. H. ....
Norvell-Wilder Supply Co. ....
Nugent & Co., Wm. W. ....

O
Oil Center Tool Co., Inc. ....
Oil Conservation Engineering Co. ...117
Oil Well Supply Co. ....
Oklahoma Gas & Electric Co. 120
Oxweld Acetylene Co. 76

P
Pacific Pump Works 152
Parkersburg Rig & Reel Co., The ...
Penberthy Injector Co. 27
Pennsylvania Grade Crude Oil Association ....
Petroleum Building ....
Petroleum Rectifying Co. of Calif. ..
Pittsburgh Steel Co. 16
Powell Co., The Wm. ....
Prest-O-Lite Co. 76
Price-Trawick, Inc. ....
Pure Oil Co., The ....

R
Reed Roller Bit Co. ....
Reid, Joseph, Gas Engine Co. ....
Reo Motor Car Co. ....
Republic Steel Corp. (Upson Nut Division) ....
Republic Steel Corp. 64-A, 64-B
Roebling's, John A., Sons Co. ....
Ross, Dewey T., Inc. ....
Rubloff & Co., Arthur ....
Ryerson & Son, Inc., Joseph T. ....

S
Security Engineering Co. ....
Shell Union Oil Corp. 6
Sinclair Refining Co. 43
Smith, E. M., Co. ....
Smooth-On Mfg. Co. ....
South Chester Tube Co. ....
Sperry-Sun Well Surveying Co. 132
Sullivan Co., The ....

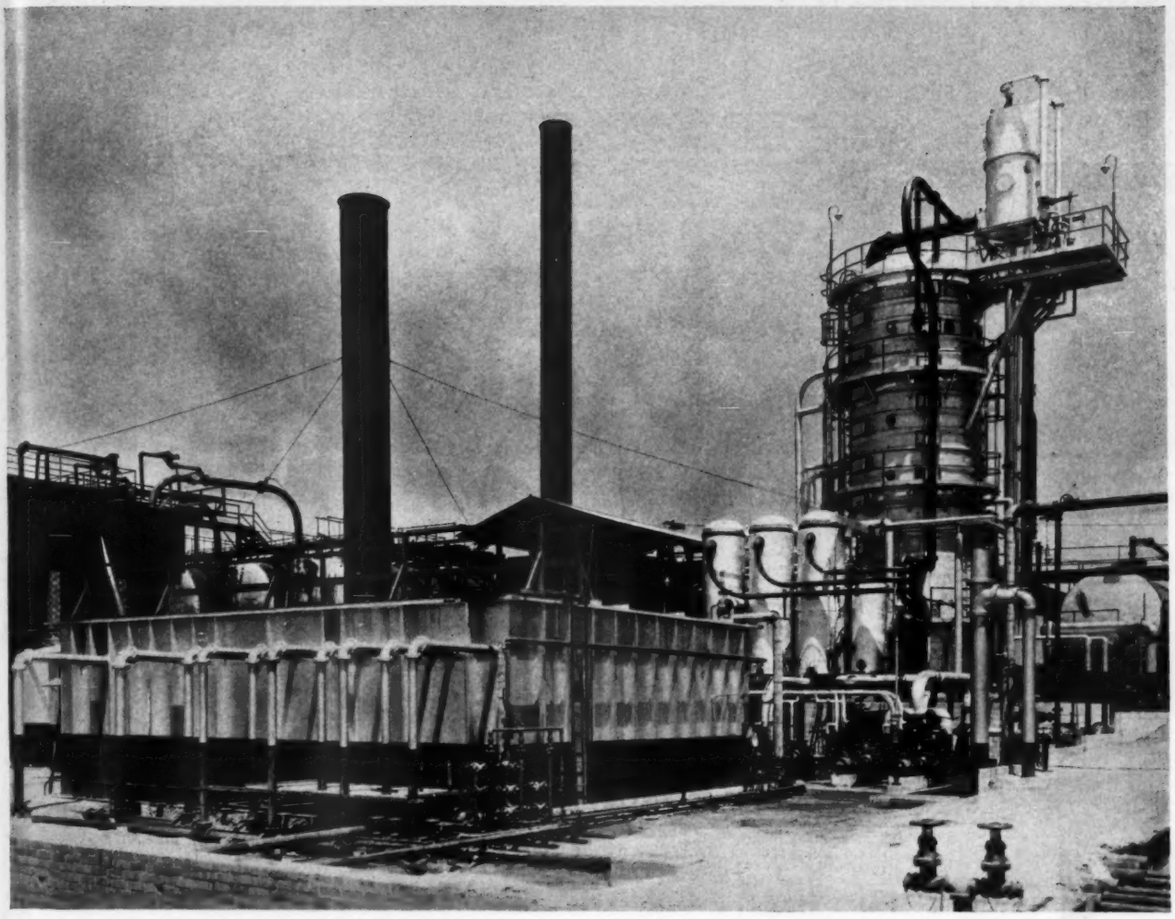
T
Taylor Forge & Pipe Works 123
Taylor Instrument Companies ....
Texas Electric Service Co. 61
Texas Iron Co. 125
Thermoid Rubber Co., The ....
Timken Roller Bearing Co. ....
Timken Steel & Tube Co. 45
Trackson Co. ....
Tretolite Co. 56
Tube Turns, Inc. 132
Tulsa Camera Record Co. ....
Tulsa Chamber of Commerce 52
Twin Disc Clutch Co. ....

U
Union Carbide & Carbon Co. 76
Union Carbide Sales Co. 76
Union Wire Rope Corp. ....
Universal Oil Products Co. 31

V
Vellumoid Co., The ....
Vogt, Henry, Machine Co. 9

W
Walworth Co. 1
Warren Petroleum Co. ....
Waukesha Motor Co. ....
Westcott Valve Co. ....
Westinghouse Elec & Mfg. Co. ....
Wheatley Bros. ....
Williams, C. K., Co. of Calif., Ltd. ..127
Williams & Co., J. H. ....
Williamsport Wire Rope Co. ....
Wilson Supply Co. 126
W. K. M. Co., Inc. ....
Worthington Pump & Machinery Corp.
Wyatt Metal & Boiler Works 99

Y
Youngstown Sheet & Tube Co., The..8-A
Yowell Service Co., O. P. 103



Lube Oil Unit for California Crude

The Union Oil Company of California recently put into service at the Oleum refinery a new vacuum distillation unit for the manufacture of high grade lubricating oils from reduced California crudes. The unit shown above charges 2,000 bbls. per day of reduced Kettleman Hills crude, having a gravity of 16° A.P.I., and recovers continuously a small gas oil overhead stream, three lubricating oil side streams and 5 penetration asphalt as residue.

The specifications of the charge and recovered fractions from this unit in a typical run are as follows:

	Viscosity	Flash
Charge	311 Saybolt Furol at 122° F.	------
Gas Oil	128 S.U. at 100° F.	365° F.
Light Lube	195 S.U. at 130° F.	440° F.
Medium Lube	128 S.U. at 210° F.	535° F.
Heavy Lube	393 at 210° F.	575° F.
Asphalt	5 penetration at 177° F.	

The entire Foster Wheeler distillation unit was furnished complete under a unit contract.

FOSTER WHEELER CORPORATION, 165 Broadway, New York

FOSTER WHEELER

ANN ARBOR MICHIGAN

University of
Michigan,
General Library,
Ann Arbor, Mich.

From CALIFORNIA *... to* OKLAHOMA

HUGHES

3 *Cone*

ROCK BITS

have proven their superiority for

DEEP DRILLING

SOLD BY SUPPLY STORES
EVERYWHERE

HUGHES TOOL COMPANY

Service Plants:
LOS ANGELES, CALIF.
OKLAHOMA CITY, OKLA.
MIDLAND, TEXAS

Main Office and Plant:
HOUSTON,
TEXAS

Export Office:
19 RECTOR STREET,
NEW YORK CITY